DOCUMENT RESUME

ED 457 204 TM 033 302

AUTHOR	Dillow, Sally, Ed.
TITLE	Education Statistics Quarterly, Summer 2001.
INSTITUTION	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-2001-605
ISSN	ISSN-1521-3374
PUB DATE	2001-00-00
NOTE	112p.; Published quarterly. Individual articles also cited in "Current Index to Journals in Education" (CIJE). For the individual articles, see TM 523 797-814.
AVAILABLE FROM	ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398. Tel: 877-433-7872 (Toll Free).. For full text: http://nces.ed.gov.
PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	Education Statistics Quarterly; v3 n2 Sum 2001
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Academic Achievement; Educational Attainment; *Educational Research; *Elementary Secondary Education; Enrollment Projections; *Higher Education; National Surveys; Research Methodology; School Statistics
IDENTIFIERS	*Condition of Education (NCES); *National Center for Education Statistics

ABSTRACT

This publication provides a comprehensive overview of work done across all parts of the National Center for Education Statistics (NCES). Each issue contains short publications, summaries, and descriptions that cover all NCES publications and data products released during a 3-month period. Each issue also contains a message from the NCES on a timely subject in education statistics and a featured topic with invited commentary. The articles of this issue are: (1) "The Condition of Education: 2001" (Featured Topic: The Condition of Education) (National Center for Education Statistics); (2) "Invited Commentary: Uses and Limitations of Indicator Data" (Andrew C. Porter); (3) "Invited Commentary: Research-Based Programs To Close Postsecondary Education Gaps" (Vinetta C. Jones); (4) "The Nation's Report Card: Fourth-Grade Reading 2000" (Patricia L. Donahue, Robert J. Finnegan, Anthony D. Lutkus, Nancy L. Allen, and Jay R. Campbell); (5) "Civics: What Do Fourth-Graders Know, and What Can They Do?" (Carol Johnson and Alan Vanneman); (6) "Civics: What Do Eighth-Graders Know, and What Can They Do?" (Carol Johnson and Alan Vanneman); (7) "Civics: What Do 12th-Graders Know, and What Can They Do?" (Carol Johnson and Alan Vanneman); (8) "Fathers' and Mothers' Involvement in Their Children's Schools by Family Type and Resident Status" (Christine Winquist Nord and Jerry West); (9) "Public School Student, Staff, and Graduate Counts by State: School Year 1999-2000" (Ghedam Bairu); (10) "Internet Access in U.S. Public Schools and Classrooms: 1994-2000" (Anne Cattagni and Elizabeth Farris); (11) "Staff Data Handbook for Elementary, Secondary, and Early Childhood Education: 2001 Edition" (Oona Cheung and Beth Aronstamm Young); (12) "Credits and Attainment: Returns to Postsecondary Education Ten Years after High School" (Brian Zucker and Royal Dawson); (13) "Attrition of New Teachers among Recent College Graduates: Comparing Occupational Stability among 1992-93 Graduates Who Taught and Those Who Worked in Other Occupations" (Robin R. Henke and Lisa Zahn); (14) "Background

Reproductions supplied by EDRS are the best that can be made
from the original document.

Characteristics, Work Activities, and Compensation of Faculty and Instructional Staff in Postsecondary Institutions: Fall 1998" (Linda J. Zimbler); (15) "The Status of Academic Libraries in the United States: Results from the 1996 Academic Library Survey with Historical Comparisons" (Maggie Cahalan, Wendy Mansfield, and Natalie Justh); (16) "What Democracy Means to Ninth-Graders: U.S. Results from the International IEA Civic Education Study" (Stephane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn); (17) "Monetary Incentives for Low-Stakes Tests" (Harold F. O'Neil, Jr., Jamal Abedi, Charlotte Lee, Judy Miyoshi, and Ann Mastergeorge); (18) "1999 Customer Satisfaction Survey Report: How Do We Measure Up?" (Sameena Salvucci, Albert C. E. Parker, R. William Cash, and Lori Thurgood); (19) "The Nation's Report Card: Fourth-Grade Reading Highlights 2000" (Shari L. Santapau); (20) "Highlights of U.S. Results from the International IEA Civic Education Study (CivEd)" (Stephane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn); (21) "Public School Finance Programs of the United States and Canada: 1998-99" (Catherine C. Sielke, John Dayton, C. Thomas Holmes, and Anne L. Jefferson, Compilers); and (22) "The Condition of Education: 2000 in Brief" (Jeanne H. Nathanson). (Contains 31 figures and 11 tables.) (SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 457 204

TM

EDUCATION STATISTICS QUARTERLY

Volume 3 · Issue 2 · Summer 2001

TM033302

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

NATIONAL CENTER FOR EDUCATION STATISTICS

Office of Educational Research and Improvement

U.S. Department of Education

NCES 2001–605

U.S. Department of Education
Rod Paige

Office Of Educational Research and Improvement
Grover J. Whitehurst

National Center for
Education Statistics
Gary W. Phillips

Contacting the National Center for Education Statistics (NCES)

We strive to make our products available in a variety of formats and in language that is appropriate to a variety of audiences. If you have any comments or suggestions, we would like to hear from you.

Mail comments or changes of address

Education Statistics Quarterly
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006

Visit the NCES Web Site — *http://nces.ed.gov*

The NCES Web Site provides information about NCES, as well as access to a wide range of publications and data sets about education in the United States and other nations.

Reach NCES staff

Each article in the *Quarterly* lists the name and e-mail address of the NCES staff member who can answer questions about the content. It is also easy to contact any member of the NCES staff from the NCES Home Page. Under "NCES Quick Links," select "NCES Staff Directory," then click on the first letter of the person's last name.

Obtaining NCES publications and data products

- While supplies last, you can get a single copy of most NCES publications (including the *Quarterly*) at no cost.
  Call toll-free 1-877-4ED-PUBS (1-877-433-7827) or write:
  Education Publications Center (ED Pubs)
  P.O. Box 1398
  Jessup, MD 20794-1398
- If you need *more than one copy* or supplies have been exhausted, you can purchase copies of many NCES publications from the Government Printing Office (GPO). Visit the GPO Internet bookstore at *http://bookstore.gpo.gov*; call GPO at 202-512-1800; or send a fax to 202-512-2250.
- If you have Internet access, you can print copies from our Web site: *http://nces.ed.gov*.

Education Statistics Quarterly
Volume 3, Issue 2, Summer 2001
NCES 2001-605

Editorial Board

Barbara Marenus, *Chair*
Shelley Burns
Jane Brown
Wilma Greene
Daniel Kasprzyk
Paula Knepper
Roslyn Korb
Edith McArthur
Marilyn McMillen
Leslie Scott

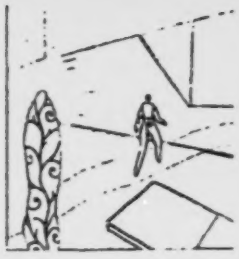
Staff

At the Education Statistics Services Institute (ESSI):

Sally Dillow, *Managing Editor*
Heather Block, *Senior Graphic Designer*
Martin Hahn, *Copy Editor & Proofreader*
Tom Nachazel, *Editorial Proofreader*
Jennie Romolo, *Project Assistant & Desktop Publisher*

ISSN 1521-3374

BEST COPY AVAILABLE



Editorial Note

National Center for Education Statistics

The National Center for Education Statistics (NCES) fulfills a congressional mandate to collect and report "statistics and information showing the condition and progress of education in the United States and other nations in order to promote and accelerate the improvement of American education."

Education Statistics Quarterly

Purpose and goals

At NCES, we are convinced that good data lead to good decisions about education. The *Education Statistics Quarterly* is part of an overall effort to make reliable data more accessible. Goals include providing a quick way to

- identify information of interest;
- review key facts, figures, and summary information; and
- obtain references to detailed data and analyses.

Content

The *Quarterly* gives a comprehensive overview of work done across all parts of NCES. Each issue includes short publications, summaries, and descriptions that cover all NCES publications and data products released during a 3-month period. To further stimulate ideas and discussion, each issue also incorporates

- a message from NCES on an important and timely subject in education statistics; and
- a featured topic of enduring importance with invited commentary.

A complete annual index of NCES publications appears in the Winter issue (published each January). Publications in the *Quarterly* have been technically reviewed for content and statistical accuracy.

General note about the data and interpretations

Many NCES publications present data that are based on representative samples and thus are subject to sampling variability. In these cases, tests for statistical significance take both the study design and the number of comparisons into account. NCES publications only discuss differences that are significant at the 95 percent confidence level or higher. Because of variations in study design, differences of roughly the same magnitude can be statistically significant in some cases but not in others. In addition, results from surveys are subject to nonsampling errors. In the design, conduct, and data processing of NCES surveys, efforts are made to minimize the effects of nonsampling errors, such as item nonresponse, measurement error, data processing error, and other systematic error.

For complete technical details about data and methodology, including sample sizes, response rates, and other indicators of survey quality, we encourage readers to examine the detailed reports referenced in each article.

Table of Contents

Note From NCES

Val Plisko, Associate Commissioner, Early Childhood, International and Crosscutting Studies Division 4

Discusses the development of *The Condition of Education* report and describes the two other flagship reports that NCES produces annually.

Featured Topic: The Condition of Education

The Condition of Education: 2001

National Center for Education Statistics 7

Focuses on indicators that present data on numerous aspects of the condition and progress of education in the United States, including academic, social, and economic outcomes; enrollments and participation at all levels; and the quality of educational environments.

Invited Commentary: Uses and Limitations of Indicator Data

Andrew C. Porter, Director, Wisconsin Center for Education Research, and Professor of Educational Psychology, University of Wisconsin-Madison 14

Invited Commentary: Research-Based Programs to Close Postsecondary Education Gaps

Vinetta C. Jones, Dean, School of Education, Howard University 17

Elementary and Secondary Education

The Nation's Report Card: Fourth-Grade Reading 2000

Patricia L. Donahue, Robert J. Finnegan, Anthony D. Lutkus, Nancy L. Allen, and Jay R. Campbell 21

Reports on the National Assessment of Educational Progress (NAEP) 2000 Reading Assessment of fourth-graders, presenting results for the nation, comparisons with the results of previous assessments, results for subgroups of students, and results when testing accommodations are permitted for special-needs students.

Civics: What Do Fourth-Graders Know, and What Can They Do?

Carol Johnson and Alan Vanneman 25

Describes fourth-graders' performance on 30 questions from the NAEP 1998 Civics Assessment. Includes samples of students' written responses.

Civics: What Do Eighth-Graders Know, and What Can They Do?

Carol Johnson and Alan Vanneman 29

Describes eighth-graders' performance on 37 questions from the NAEP 1998 Civics Assessment. Includes samples of students' written responses.

Civics: What Do 12th-Graders Know, and What Can They Do?

Carol Johnson and Alan Vanneman 35

Describes 12th-graders' performance on 38 questions from the NAEP 1998 Civics Assessment. Includes samples of students' written responses.

Fathers' and Mothers' Involvement in Their Children's Schools by Family Type and Resident Status

Christine Winquist Nord and Jerry West 40

Examines parents' school involvement by family type and explores the association between their involvement and whether students get mostly A's, have ever repeated a grade, or have ever been suspended or expelled.

Public School Student, Staff, and Graduate Counts by State: School Year 1999–2000

Ghedam Bairu 44

Provides the following national and state data for public elementary and secondary schools in 1999–2000: number of students enrolled, number of staff by type, number of high school graduates, and race/ethnicity of students and graduates.

Internet Access in U.S. Public Schools and Classrooms: 1994–2000

Anne Cattagni and Elizabeth Farris 54

Examines the progress of public schools in providing students and teachers with access to computers and the Internet. Includes comparisons by school characteristics.

Staff Data Handbook for Elementary, Secondary, and Early Childhood Education: 2001 Edition

Oona Cheung and Beth Aronstamm Young 62

Provides guidelines for consistent maintenance of staff information by schools, school districts, state education agencies, and other institutions.

Postsecondary Education

Credits and Attainment: Returns to Postsecondary Education Ten Years After High School
Brian Zucker and Royal Dawson 65

Describes the earnings of young adults who have some college but no postsecondary degree. Explores associations of earnings with demographic and family background, high school preparation, postsecondary experience, and early work experience.

Attrition of New Teachers Among Recent College Graduates: Comparing Occupational Stability Among 1992–93 Graduates Who Taught and Those Who Worked in Other Occupations
Robin R. Henke and Lisa Zahn 69

Looks at the occupational stability of 1992–93 bachelor's degree recipients, examining whether those who were teaching in 1994 were more or less likely than those who were working in other occupations in 1994 to have left the workforce or be working in a different occupation by 1997.

Background Characteristics, Work Activities, and Compensation of Faculty and Instructional Staff in Postsecondary Institutions: Fall 1998
Linda J. Zimbler 77

Provides overview data on all faculty and instructional staff in public and private not-for-profit 2-year-and-above postsecondary institutions, as well as more detailed data on those who have duties involving instruction for which students receive credit.

Libraries

The Status of Academic Libraries in the United States: Results From the 1996 Academic Library Survey With Historical Comparisons
Maggie Cahalan, Wendy Mansfield, and Natalie Justh 83

Presents detailed data on the status of academic libraries in 1996, as well as historical comparisons with previous years, focusing on comparisons since 1990.

International Statistics

What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study
Stéphane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn 89

Presents U.S. results from an assessment of the civic knowledge, skills, and attitudes of 14-year-old students in 28 countries, describing the performance of U.S. students relative to their counterparts in other countries and examining contextual factors and student characteristics that relate to U.S. students' civic knowledge and attitudes.

Methodology

Monetary Incentives for Low-Stakes Tests
Harold F. O'Neil, Jr., Jamal Abedi, Charlotte Lee, Judy Miyoshi, and Ann Mastergeorge 97

Documents the findings of an experiment in which 12th-grade students taking a math assessment were given monetary incentives to see whether such incentives would improve their performance.

1999 Customer Satisfaction Survey Report: How Do We Measure Up?
Sameena Salvucci, Albert C.E. Parker, R. William Cash, and Lori Thurgood 101

Summarizes results of a 1999 survey regarding how satisfied federal, state, and local policymakers; academic researchers; and journalists were with NCES publications, databases, and services. Compares results in 1999 with results in 1997.

Other Publications and Funding Opportunities

Other Publications

The Nation's Report Card: Fourth-Grade Reading Highlights 2000
Shari L. Santapau 107

Highlights of U.S. Results From the International IEA Civic Education Study (CivEd)
Stéphane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn 108

Public School Finance Programs of the United States and Canada: 1998–99
Catherine C. Sielke, John Dayton, C. Thomas Holmes, and Anne L. Jefferson (compilers) 108

The Condition of Education: 2000 in Brief
Jeanne H. Nathanson 108

Funding Opportunities

The AERA Grants Program 109

The NAEP Secondary Analysis Grant Program 109

Note From NCES

Val Plisko, Associate Commissioner
Early Childhood, International and Crosscutting Studies Division

The Condition of Education and Other NCES Annual Reports

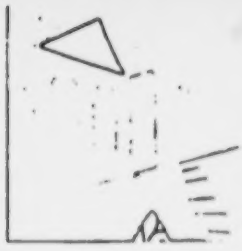
Serving as Associate Commissioner of the division responsible for preparing *The Condition of Education* has enabled me to come full circle. You see, I began my federal career some 25 years ago working on the *Condition of Education* when the report was in its infancy. To give you an idea of how the report has progressed, my first job was hand-plotting the graphics, which were then converted by a graphic artist into final figures. We later graduated to producing the graphics on a mainframe computer, which at the time was considered innovative. Today, the National Center for Education Statistics (NCES) uses the latest technology not only to develop the indicators and generate the graphics, but also to allow top education researchers from around the country to work on the report collaboratively.

Looking Back

Quite a bit has changed, but quite a bit remains the same. *The Condition of Education* continues to play a key role in fulfilling the core NCES responsibility to report on trends and conditions in education for the nation. The report's mandate dates to 1974, but it has an important antecedent in the original mission of the first (and short-lived) Department of Education, created in 1867. In that year, Congress legislated the establishment of a Department of Education to "gather statistics and facts on the condition and progress of education in the United States and Territories." Education in America today—and the task of assessing its scope, quality, and impact—are immensely more complex, but the need to fulfill this essential federal responsibility remains unchanged.

Opening the first *Condition of Education* report is similar to unsealing a time capsule. Some issues are perennial. Back in 1975, the *Condition* reported that the benefits of education for adults included greater voter participation, higher employment, greater income, and better academic prospects for their children. This year's report adds to the litany of benefits by showing that the better educated are more likely to report better health, even after controlling for income. In 1975, the *Condition* reported on the effects of the baby boom; in 2001, the report shows the impact of the baby boom echo (the children born to baby boomers) and how the population crest is now reaching the high schools. When *The Condition of Education* reported on the performance of elementary and secondary students on basic skills assessments in 1975, it showed large differences between Whites and Blacks and between students whose parents had no high school and those who had some postsecondary education. Today, we show data for Whites, Blacks, and Hispanics and differences between students whose parents did not complete high school and those whose parents have at least a bachelor's degree. Both the 1975 and 2001 reports show appreciable gains in educational attainment over time. Yet comparing the data in the two volumes shows that the increases in female attainment of postsecondary degrees projected for the mid-1970s were outpaced by the reality.

Just as we have moved from hand-drawn to PC-generated graphics, the Center has improved its indicators and its manner of reporting data. *The Condition of Education* now reports on a core set of indicators each year, supplemented by special feature indicators. Elaboration of the data has greatly expanded over time, and supplementary tables now make up half of the report. Technical notes in the 1975 volume comprised all of three pages, with no reference to sampling errors associated with our surveys. Today, the report does a much better job of explaining the uncertainty surrounding survey estimates and trend lines.



Looking Forward

Five years ago, *The Condition of Education* was released on the Internet to provide immediate access for audiences unable to obtain print copies of the report. Each year, the Web version of the *Condition* has been upgraded, and the rapidly expanding use of government documents on the Internet means that the Web versions are now used much more frequently than the print versions. New editions of *The Condition of Education* will take advantage of this evolving technology to provide more frequent updates of indicators that are not printed every year and to make reference materials more convenient. Rather than merely being facsimiles of what is printed, future Web versions will go beyond the print versions. The Web versions will link to further material and will be easy to search electronically. Aside from technological improvements, innovations in surveys and statistical methods will increase the research depth of the publication to create more meaningful indicators. Future editions of the *Condition* will also continue to feature essays that analyze recent data with state-of-the-art techniques and are designed to inform policy debates. By bringing together information presented in a number of indicators, along with results from other publications, the essays will tell a more complete story about complex issues. In addition, innovations in graphics will make salient findings more accessible to general audiences.

Other Annual Reports

Although *The Condition of Education* has been produced since 1975, it is the newest of the three flagship reports produced annually by the Center. The other two are the *Digest of Education Statistics* and *Projections of Education Statistics*.

The *Digest of Education Statistics* brings together education statistics at all levels. It is the Center's oldest annual report series, dating to 1962, and remains the most widely used NCES reference work (judging from the number of Web visits—about 124,000 in the year 2000). Its hundreds of tables—about two-thirds of them updated annually—plus supporting figures, text, and documentation cover a full range of education topics, from early childhood activities to postdoctoral occupations. The *Digest* addresses the needs of researchers, policy analysts, and others not only for basic statistics, but also for detailed data and breakouts of many demographic and institutional groups from all of the Center surveys. It also presents an extensive collection of state-level data, and some district-level data, to assist state and local policymakers. In addition, it contains data for individual colleges, including the largest colleges in the country and historically Black and Hispanic colleges. Most of these statistics are printed exclusively in the *Digest*, the 2000 edition of which contained 549 pages and 427 tables. Work is currently under way on a Web-based system designed to allow interim updates to the annual report.

Projections of Education Statistics, first issued in 1964, contains forecasts for 10 years into the future of key education statistics to meet the needs of state and federal policymakers. This report includes state-level projections of public school enrollment and high school graduates and national-level projections for public and private school teachers, school and college expenditures, and a variety of college enrollment and graduate variables. These education projections are part of a wide range of federal forecasts. The forecasts for this report are derived using demographic and economic data from other statistical agencies and organizations. These forecasts have been extensively used in other NCES reports as well as in reports produced by other federal offices, including the Department's annual "Back to School" release. The addition of state-level statistics (beginning in 1994) has made the report even more popular among state officials and research offices. The Bureau of Labor Statistics also uses *Projections* forecasts to evaluate its education employment models. Private corporations use the *Projections* forecasts to conduct marketing studies for school products.

The Condition of Education: 2001
National Center for Education Statistics 7

Invited Commentary: Uses and Limitations of Indicator Data
Andrew C. Porter, Director, Wisconsin Center for Education Research, and Professor of Educational Psychology, University of Wisconsin-Madison 14

Invited Commentary: Research-Based Programs to Close Postsecondary Education Gaps
Vinetta C. Jones, Dean, School of Education, Howard University 17

The Condition of Education

The Condition of Education: 2001

This article was originally published as the Commissioner's Statement in the Compendium of the same name. The universe and sample survey data are from various studies carried out by NCES, as well as surveys conducted elsewhere, both within and outside of the federal government.

Introduction

Reliable data are critical in guiding efforts to improve education in America. When the original Department of Education was created in 1867, the law stated that it should "gather statistics and facts on the condition and progress of education in the United States and Territories." The National Center for Education Statistics (NCES) currently carries out this mission for the Department of Education through such work as *The Condition of Education*, a mandated annual report submitted to Congress on June 1 every year.

Drawing on numerous data sources, this annual report presents indicators of important developments and trends in American education. Recurrent themes underscored by the indicators include participation and persistence in education, student performance and other outcomes, the environment for learning, and societal support for education. In addition, this year's special feature focuses on the issue of providing equal educational opportunities to first-generation students (i.e., students whose parents did not attend college) and how academic preparation can increase the likelihood of these students' access to and persistence in postsecondary education.

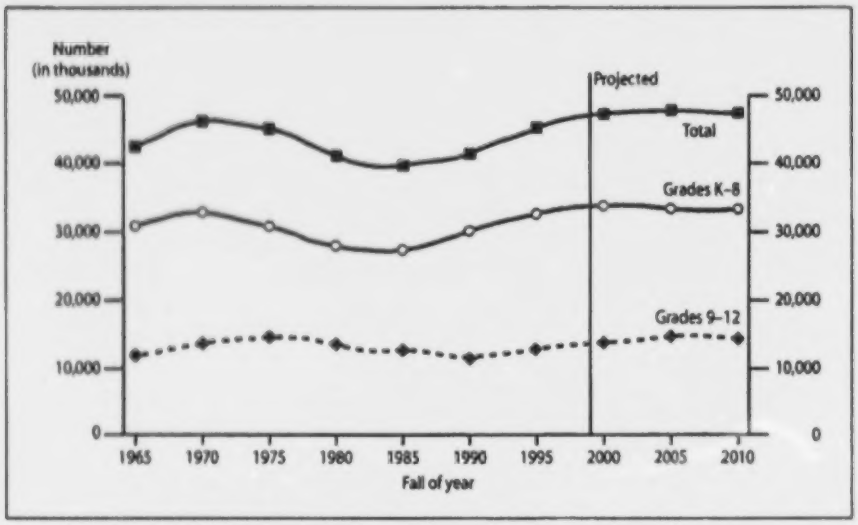
Participation and Persistence in Education

Enrollments in the United States are growing at all levels of education, but for different reasons. At the preprimary level, growth is due to higher rates of enrollment; that is, larger percentages of 3- to 5-year-old children are enrolling in school. At the elementary and secondary levels, growth is due to demographic changes, which are also making the student body more diverse. At the postsecondary level, high enrollment rates and population growth are combining to swell enrollments. Among adults, rates of educational attainment and of continued participation in learning activities are on the rise.

- The preprimary enrollment rate of children ages 3–5 increased from 53 to 60 percent between 1991 and 1999.
- Public elementary and secondary enrollment is projected to reach 47.2 million in 2001 and to increase through 2005 before decreasing slowly (figure A). The West will experience the majority of this growth in the student population.
- Private elementary and secondary school enrollment was higher in 1997–98 than in 1989–90. Despite increases in the West, private enrollment for grades

BEST COPY AVAILABLE

Figure A.—Public elementary and secondary school enrollment in grades K–12 (in thousands), by grade level, with projections: Fall 1965–2010



NOTE: Includes most kindergarten and some nursery school enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), various years, and *Projections of Education Statistics to 2010* (NCES 2000–071). (Originally published as the School Enrollment figure on p. 7 of the complete report.)

K–12 was lowest in the West and highest in the South in 1997–98.

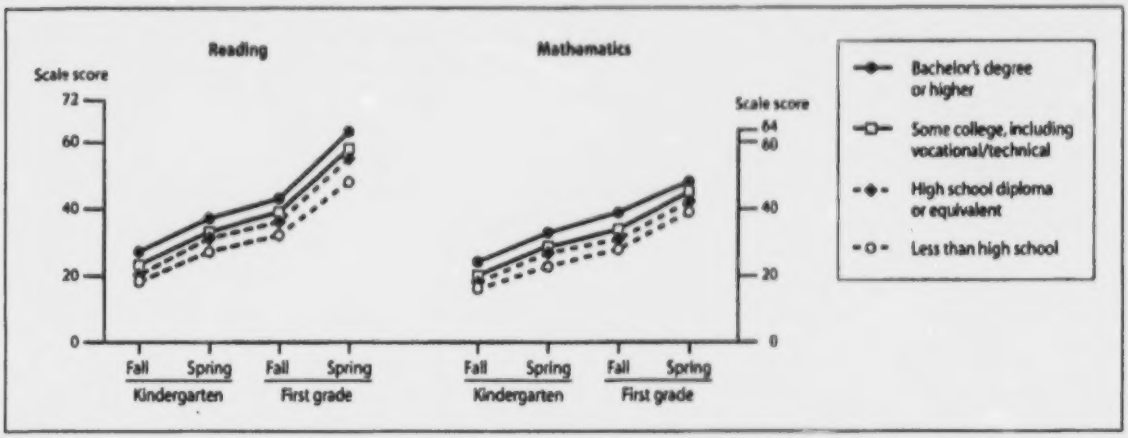
- Hispanic students are the fastest growing student group in the nation's elementary and secondary schools.
- The percentage of U.S. 16- to 24-year-olds who were high school dropouts (the status dropout rate) decreased from 1972 to 1999 for White and Black young adults.
- U.S. students' expectations for obtaining post-secondary credentials have increased substantially since 1983. The college enrollment rates for high school completers in the past decades have also risen for White and Black students. There has been no consistent growth for Hispanic students.
- Although part-time and 2-year enrollments in undergraduate education grew more rapidly than full-time and 4-year enrollments in the 1970s, future growth is expected to be greater in full-time and 4-year enrollments.
- Participation in adult learning activities was higher in 1999 than in 1991. Rates of participation in credential programs in colleges and universities decline with age, while participation in all other types of adult learning activities, such as work-related learning and personal interest courses, remains about the same with age.

Outcomes of Education

At the elementary and secondary levels, trends in student performance are mixed. Participation in advanced mathematics and science courses has increased, and there have been some improvements in mathematics and science performance. But issues of equal educational opportunity and international competitiveness remain.

- Children at risk (for example, those whose mothers have less than a high school diploma) begin kindergarten with markedly lower reading and mathematics skills than do more advantaged children (figure B). All children showed marked improvement in both reading and mathematics performance during the kindergarten year, but gaps persisted or grew for children at risk, particularly in more advanced skills.
- Between 1971 and 1999, 9- and 13-year-olds improved their performance in reading, but there was no meaningful difference for 17-year-olds. The pattern of change has been similar for both 9- and 13-year-olds, with reading scores increasing in the

Figure B.—Children's overall reading and mathematics performance from kindergarten through first grade, by mother's highest level of education: 1998–2000



NOTE: The reading scale score ranged from 0 to 72, and the mathematics scale score from 0 to 64. Based on those assessed in English (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children). Based on children who entered kindergarten for the first time in fall 1998.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), fall 1998 and spring 1999. (Originally published as the Early Reading and Mathematics Performance figure on p. 19 of the complete report.)

1970s and remaining stable since then. The score gap between Black and White students narrowed between the early 1970s and the late 1980s, but has remained fairly stable since then. The relative performance of Whites compared with Hispanics did not change significantly between the 1970s and 1999, except for a narrowing of the gap for 17-year-olds (Campbell, Hombo, and Mazzeo 2000).

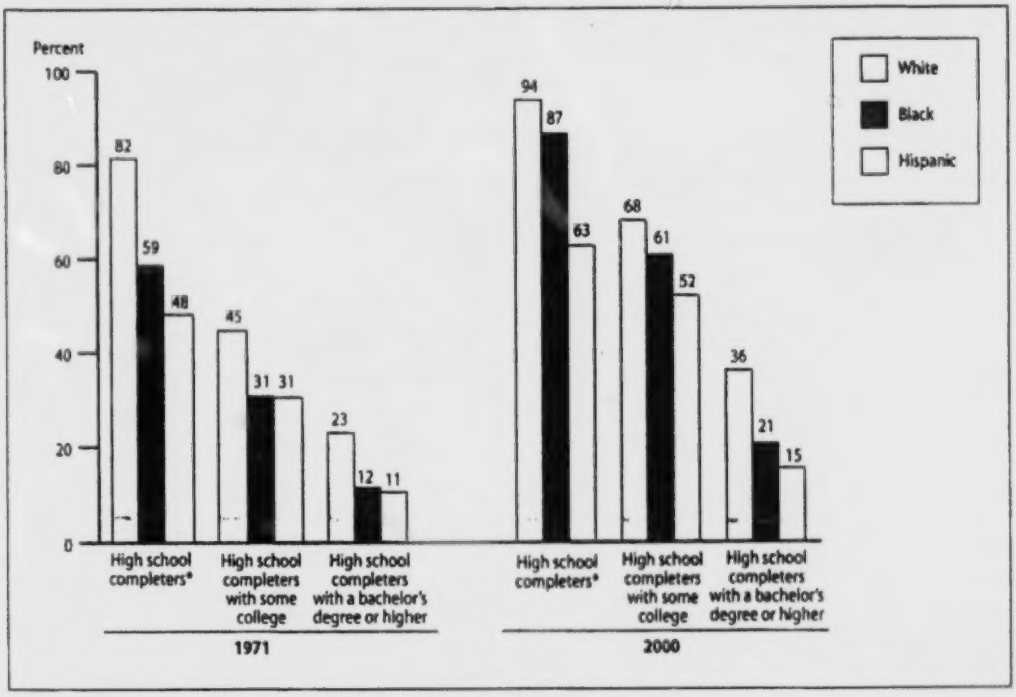
- Between 1973 and 1999, 9-, 13-, and 17-year-olds all improved their performance in mathematics.
- The trends in science performance are characterized by declines in the 1970s, increases during the 1980s and early 1990s, and mostly stable performance since then.
- In both mathematics and science, the performance of U.S. students declined relative to the international average among those who were in the fourth grade in 1995 compared with those who were in the eighth grade in 1999.
- In 1995, U.S. 12th-graders who had taken physics and advanced mathematics courses scored lower than their peers in the final year of secondary school in most participating countries and no higher than their peers in any country (National Center for Education Statistics 2000).
- Despite the continued increase in the attainment rates of U.S. 25- to 29-year-olds across all racial/ethnic groups and all educational levels, gaps between Whites versus Blacks and Hispanics persisted between 1971 and 2000, except for the gap between Black and White rates of high school completion, which declined (figure C).
- Women earn more than half of all bachelor's degrees in the United States. They still trail men in certain fields but have made considerable progress over the past quarter century.
- Attainment rates of secondary education in the other G-7 countries are approaching, matching, or surpassing U.S. rates. However, U.S. attainment rates of higher education remain relatively high.

Focus on First-Generation College Students

Reflecting the high value placed on postsecondary education, most high school graduates expect to continue their education, and many of them actually do so. However, first-generation students (those whose parents did not attend college) are less likely than their peers with a college-educated parent to enroll in postsecondary education.

- Nearly all 1992 high school graduates (97 percent) reported that they expected to continue their education at some point (Berkner and Chavez 1997).

Figure C.—Percentage of 25- to 29-year-olds who attained selected levels of education, by race/ethnicity: March 1971 and 2000



*Includes high school completers with some college or a bachelor's degree or higher.

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. The category "diploma or equivalency certificate" includes those who have a high school diploma or an equivalency certificate; "some college" includes those with an associate's degree or a vocational certificate; and "bachelor's degree or higher" includes those with an advanced degree. In 1994, the survey instrument for the CPS was changed and weights for undercounted populations were adjusted.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), March 1971 and 2000. (Originally published as the Educational Attainment figure on p. 51 of the complete report.)

- Over the past decade, the percentage of high school completers who enrolled in college immediately after finishing high school has ranged between 60 and 67 percent, but enrollment rates have varied considerably with parents' educational attainment.
- In 1999, 82 percent of high school graduates whose parents had a bachelor's degree or higher enrolled in college immediately after finishing high school, compared with 54 percent of those whose parents had not gone beyond high school and 36 percent of those whose parents had not completed high school.

Recent NCES studies have shown that high school graduates whose parents did not attend college remain at a disadvantage with respect to postsecondary access even after taking into account other important factors such as educational expectations, academic preparation, support from parents and schools, and family income. Also according to these studies, among those who overcome the barriers to access and do enroll in postsecondary education, students whose parents did not attend college remain at a disadvantage with respect to staying enrolled and attaining a degree, again controlling for other related factors.

Academic preparation has a striking impact on the likelihood that first-generation students will enroll and persist in postsecondary education, but it does not completely close the gaps in postsecondary access and persistence between first-generation students and their peers with a college-educated parent.

- Taking advanced mathematics in high school increases the likelihood of enrollment in a 4-year institution, especially for first-generation students.
- Taking rigorous coursework in high school increases the likelihood of persistence toward a

bachelor's degree, especially for first-generation students (figure D).

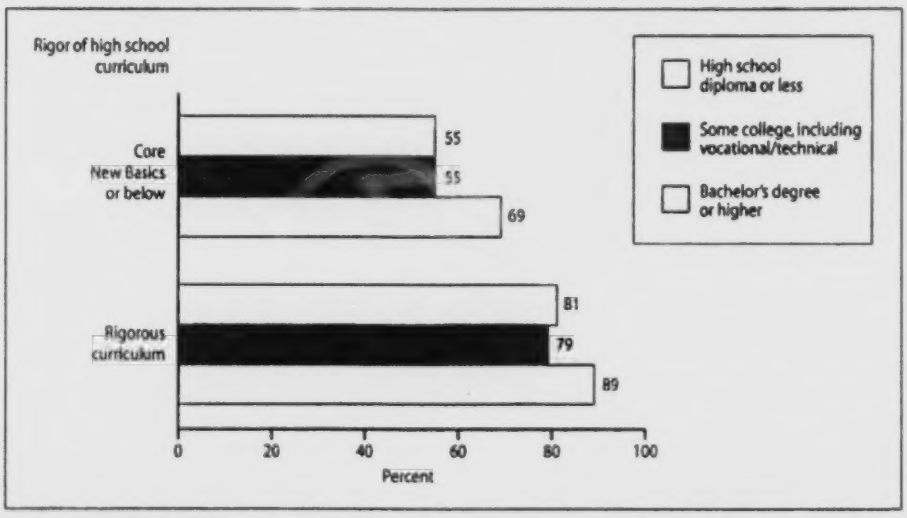
For those students who earn a bachelor's degree, labor market outcomes (but not rates of enrollment in graduate school) during the 4 years following graduation are similar regardless of parents' education.

Quality of the Environment for Learning

Student performance in elementary and secondary schools is undoubtedly shaped by the quality of the teaching staff and the climate for learning within and outside schools.

- The percentage of high school graduates who completed advanced academic levels of English and foreign language study doubled between 1982 and 1998, to about 30 percent in each subject. The proportion of high school graduates who completed advanced levels of mathematics increased from 26 to 41 percent during this period, and the proportion who completed advanced levels of physical science rose from 31 to 60 percent (National Center for Education Statistics 2000).
- The quality of the mathematical content of eighth-grade mathematics lessons was rated lower than that in Germany and Japan.
- Between 1990 and 1998, student/teacher ratios declined in public elementary schools but rose slightly in public secondary schools.
- Academically weak college graduates are more likely than those who are academically strong to prepare to teach and to remain in teaching.
- U.S. eighth-grade students are less likely to be taught by a teacher whose field of study was mathematics or physics than their international peers.
- The percentages of high school students carrying weapons and engaging in physical fights on school property have declined since 1993, while the percentage being threatened or injured with a weapon has not changed.
- As hours at a job increased, high school seniors were less likely to spend 10 or more hours a week on homework.

Figure D.—Percentage of 1995–96 beginning postsecondary students at 4-year institutions who stayed on the persistence track to a bachelor's degree, by rigor of high school curriculum and parents' highest level of education: 1998



NOTE: "Core New Basics or below" indicates that in high school the student completed no more than 4 years of English and 3 years each of mathematics, science, and social studies. "Rigorous curriculum" indicates that in high school the student completed at least 4 years each of English and mathematics (including precalculus), 3 years each of science (including biology, chemistry, and physics) and social studies, and one honors/AP course or AP test score.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996 Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:96/98), as published in *Bridging the Gap: Academic Preparation and Postsecondary Success of First-Generation Students* (NCES 2001–153), table 15.

SF 13

- Students were somewhat more likely to participate in community service in 1999 than in 1996; a key variable in their participation appears to be whether the school arranged rather than simply required service activities.

Different issues are raised about the context for learning at the postsecondary level.

- Part-time faculty provide postsecondary institutions with a flexible workforce; however, part-time faculty may be less available to students and may not participate in institutional activities to the same extent as other faculty. In fall 1998, 4 out of 10 faculty at postsecondary degree-granting institutions worked part time.
- Full-time instructional faculty at postsecondary degree-granting institutions worked an average of 53 hours weekly in fall 1998, devoting a majority of their time to teaching. The proportion of time faculty allocated to teaching and to research varied considerably depending on institution and academic rank, averaging 57 and 15 percent.

Societal Support for Education

Society and its members—the family, the individual, employers, and government and private organizations—provide support for education in various ways, such as spending time on learning activities, providing encouragement to learners, and investing money in education.

- The levels of parental involvement in American elementary and secondary schools are relatively high, but the frequency of such participation depends on the child's grade in school as well as parental income and educational attainment.
- In 1999, among children ages 3–5 who were not yet enrolled in kindergarten, those with multiple risk factors were generally less likely than those without risk factors or with only one risk factor to engage in literacy activities frequently with their families.
- Average expenditures in public school districts were $5,700 per student in 1996–97. Between 1991–92 and 1996–97, average expenditures increased more in nonmetropolitan school districts than in metropolitan areas.
- U.S. spending per student on primary and secondary education as a percentage of Gross Domestic Product (GDP) per capita was similar to the average for the Organisation for Economic Co-operation and Development (OECD) countries in 1997. In terms of expenditures per student at the postsecondary level, the United States spent more than twice as much as 15 other OECD countries.
- In 1999, U.S. 6th- to 12th-graders and their parents overestimated the price of attending public 4-year institutions in their state.
- Four years after they graduated, most 1992–93 bachelor's degree recipients earned enough to repay their loans without undue financial burden.

Enduring Effects of Education

Education provides many lasting benefits to society as a whole and its members.

- Adults with a bachelor's degree are three times more likely than adults with less than a high school diploma to report reading newspapers, magazines, or books regularly.
- Better educated adults report themselves in better health, regardless of income.
- Young adults with higher levels of education earn more than their peers with less education.

Conclusion

In examining trends in the condition of American education, some encouraging signs emerge. These include higher rates of educational participation in the overall population as well as increases in the mathematics performance of students, some increases in science performance in the 1980s (but with no further increases in the 1990s), and increased advanced coursetaking of high school students in four major academic subject areas (mathematics, science, English, and foreign languages). But international comparisons of student performance and instructional quality raise concerns about how well the American education system compares with the systems of other economically developed countries, especially at the middle school and secondary levels.

Also, disturbing gaps persist in academic performance and educational participation among different racial/ethnic and socioeconomic groups. These gaps exist when children enter kindergarten but show few signs of closing by the end of first grade or at higher grade levels. The parents of at-risk children are less likely to engage in early literacy activities with their children and to enroll them in a preschool program of some kind.

A growing and increasingly diverse population of elementary and secondary students continues to increase the challenge of providing high-quality instruction and equal educational opportunities. At the postsecondary level, institutions must prepare for the record numbers of enrollments expected over the next few decades. U.S. spending per student is similar to that in other major industrialized countries at the elementary/secondary level but higher at the postsecondary level.

NCES produces an array of reports each month presenting important findings about the U.S. education system. In April 2001, more than a dozen reports were released, including two major studies: *The Nation's Report Card: Fourth-Grade Reading 2000* (Donahue et al. 2001) from the National Assessment of Educational Progress (NAEP) and *What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study* (Baldi et al. 2001). *The Condition of Education* represents the culmination of a year-long project and some materials, such as the results from these two surveys, were not available in time to be included in this year's edition.

In the coming months many other reports and surveys informing us about education will also be released, including the NAEP *Report Cards for the Nation and States* on mathematics and on science, which will both include results on students' performance in the 4th, 8th, and 12th grades; the 1999–2000 Schools and Staffing Survey; and the Program for International Student Assessment.

References

Baldi, S., Perie, M., Skidmore, D., Greenberg, E., and Hahn, C. (2001). *What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study* (NCES 2001–096). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Berkner, L., and Chavez, L. (1997). *Access to Postsecondary Education for the 1992 High School Graduates* (NCES 98–105). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Campbell, J.R., Hombo, C.M., and Mazzeo, J. (2000). *NAEP 1999 Trends in Academic Progress: Three Decades of Student Performance* (NCES 2000–469). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Donahue, P.L., Finnegan, R.J., Lutkus, A.D., Allen, N.L., and Campbell, J.R. (2001). *The Nation's Report Card: Fourth-Grade Reading 2000* (NCES 2001–499). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

National Center for Education Statistics. (2000). *The Condition of Education: 2000* (NCES 2000–062). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Data sources: Many studies from NCES and other sources.

For technical information, see the complete report:

National Center for Education Statistics. (2001). *The Condition of Education: 2001* (NCES 2001–072).

For questions about content, contact John Wirt (*john.wirt@ed.gov*).

To obtain the complete report (NCES 2001–072), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site (*http://nces.ed.gov*), or contact GPO (202–512–1800).

Indicator Data

Invited Commentary: Uses and Limitations of Indicator Data

Andrew C. Porter, Director, Wisconsin Center for Education Research, and Professor of Educational Psychology, University of Wisconsin-Madison

This commentary represents the opinions of the author and does not necessarily reflect the views of the National Center for Education Statistics.

The 2001 edition of *The Condition of Education*, an annual report by the National Center for Education Statistics (NCES), is chock-full of important and timely statistics. The report is organized around such key areas as enrollment, student achievement, persistence, coursetaking, postsecondary education, and parental support, with a very interesting opening essay on students whose parents did not go to college.

The report is written in a style that should be accessible to a wide range of readers, from interested parents, to policy wonks, to education researchers. Plenty of tables without text are available in an appendix for those who love numbers; and for those who really love numbers, the standard errors are provided in another appendix as well. But the body of the report is in plain English with helpful charts and graphs.

Essentially, *The Condition of Education* is a book of indicators that can be used to monitor education in America over time. A comprehensive and consistent set of indicators must be based on a model of the education system that is sufficiently general, yet sufficiently complete that its validity will continue over time. At the crudest level, there need to be indicators of education inputs, processes, and outputs. Inputs include fiscal and other resources, teacher quality, student background, parent characteristics, and community norms. Processes include (a) organizational characteristics of schooling at the national, state, district, and school levels and (b) instructional characteristics of schooling (curriculum quality and teaching quality). Outputs include achievement, participation, attitudes, and aspirations. To the credit of NCES, the 2001 edition of *The Condition of Education* is comprehensive when judged against this model of inputs, processes, and outputs.

Criteria for Useful Education Indicators

Education indicators, to be useful, must also meet several criteria:

First and most important, indicators must be easily understood by a broad audience. Indicators are not intended primarily to serve the needs and interests of researchers; rather, they are created to serve the information needs of policymakers and the public.

Second, even though the education system is extraordinarily complex—with various layers, levels, and participants—the number of education indicators must be relatively few. Organizing indicators by the main features of the model can help.

Third, indicators need to be stable over time, both in what is being monitored and how it is being measured. Without stability of definition and measurement, looking at trends over time is not possible; but trends are exactly what is of most importance. Is achievement getting better over time? Is the system growing in terms of numbers of students served? Are costs per pupil decreasing?

Fourth, indicators must be reported at a disaggregated level. In the United States, the main story about education is one of variability. For example, there is enormous variance between states in levels of student achievement. Some of our states achieve at levels comparable to the highest achieving countries in the world; other states achieve at levels comparable to the lowest achieving countries in the world. Variance is not only important for understanding student achievement; it is equally important for understanding inputs and school processes.

Fifth, education indicators must be accurate. There are two aspects of accuracy. One is an issue of measurement. For example, if an indicator is based on self-report questionnaire data, can self-reports be trusted to be valid? Sometimes the answer is yes and sometimes no. The second aspect of accuracy has to do with standard errors. When average student achievement is reported, for example, is it based on a sufficiently large sample that the number reported would have been likely to vary little, if at all, had a different sample been taken?

Sixth, indicators must be timely. Timeliness is always a problem for statistics. For example, the National Assessment of Educational Progress (NAEP) has assessed student achievement in mathematics no more often than every 2 years, and sometimes less frequently.

Timeliness leads to the seventh characteristic of indicators: they must be affordable. Obviously, there are tensions

between the first six characteristics and affordability. At the current time, the United States invests only a tiny fraction of 1 percent of its total education budget on education indicators. Clearly, a larger investment is warranted.

When I review the 2001 edition of *The Condition of Education*, not only do I see that the volume and the indicators in it are driven by a comprehensive model of the education system; I also see that great attention has been paid to meeting the seven desirable characteristics of indicators.

The Condition of Education as a Resource

One doesn't sit down to read *The Condition of Education* from cover to cover. I use it as a resource to look up answers to questions I have about education. Sometimes these questions are stimulated by family conversations, other times by my teaching or research. Now that *The Condition of Education* is available on the NCES Web Site *(http://nces.ed.gov)*, accessing the volume for answers to questions as they occur is easier than ever before.

In browsing through the 2001 edition, I couldn't help being struck by a recurring theme. There are large and persistent inequities in our education system. These inequities are found in education inputs, processes, and outputs:

- White students continue to outperform Black and Hispanic students in reading, mathematics, and science. There was some small closing of these equity gaps in the 1970s, but the gaps persist and they are large.
- Among 25- to 29-year-olds, 6 percent of White students have failed to complete high school, compared with 13 percent of Black students and an alarming 37 percent of Hispanic students.
- A higher percentage of White high school graduates go immediately to college than do Black or Hispanic high school graduates. (Across all groups, 63 percent of high school graduates go immediately to college.)
- Among high school graduates, 36 percent of White students complete a bachelor's degree, compared with 21 percent of Black students and 15 percent of Hispanic students.

The report does not say what can or should be done about these inequities, nor should a report from a statistical agency. Nevertheless, the report makes clear that something needs to be done and that what has been done has not been enough.

The report is so full of useful information that it's difficult to know where to stop. Here are a few additional statistics that caught my eye:

- Over 50 percent of parents report that they are "very satisfied" with their children's schools. I guess they don't blame the schools for the large inequities, since the results varied hardly at all by ethnicity.
- A surprisingly large 8 percent of students report being threatened or injured with a weapon during the previous 12 months. That's nearly 1 out of 10; as a parent of five, I find that scary.
- In constant 2000 dollars, the median earnings of 25- to 34-year-olds (a) *decreased* over the past 20 years for males, with the percentage decrease being largest for the least educated, and (b) *increased* over the past 20 years for females, with the percentage increase being largest for the most educated. It's hard to be happy about males losing ground, but it's definitely encouraging to see females gaining ground.

The Need for Additional Indicators

Having established that the 2001 edition of *The Condition of Education* provides a great deal of timely and useful information about education in the United States, I must also point out that there are some key pieces of information missing. The reasons for these missing indicators undoubtedly relate to issues of cost and technical capability. Nevertheless, there are areas where NCES needs to move in the future.

Perhaps the most glaring omission from the volume is information about instructional practices. For example, in my work I have found that the content of instruction delivered by teachers is the single most powerful school-controlled predictor of differential gains in student achievement. In short, what students have had the opportunity to study determines in important ways what they learn. At one level, this sounds obvious; yet careful studies of algebra I in high school reveal enormous differences in the delivered curriculum, even across algebra I classes in the same school. Differences in the content of instruction across classes for first-year high school biology are even greater. Issues of equity could be better understood if indicators of instructional practice were included in the volume. For example, do Black students have access to the same content of instruction as White students?

Even though I identify the need for education indicators of instructional practice, and especially the content of instruction, I recognize that there are significant challenges to producing high-quality indicators. I have had good luck using teacher self-report on surveys, but there are limits to the validity of such data. Teachers may not see and understand their own practice in the same way as others would. Observation studies can solve some of this problem, but to understand the content for a school would require more observations than could be afforded. Work needs to be done to develop valid survey techniques to supply the needed indicators.

A second omission is in the area of teacher knowledge. There are tests of teacher knowledge for entering teachers, but data are not available on a national probability sample of teachers. Further, these entry-to-the-profession measures of teacher knowledge, while quite good, need further development to capture what has come to be known as teacher pedagogical content knowledge, the intersection between content knowledge and pedagogical practice informed by how students learn. At what level of knowledge are U.S. teachers operating in the various academic subjects and at the levels of elementary, middle, and high school? Do teachers in schools serving high concentrations of students from low-income families have the same content and pedagogical content knowledge as teachers serving more affluent populations? At present, we simply don't know the answers to these basic but important questions.

Questions of Cause and Effect

In almost all conversations about education, it is not long before interest turns to questions of cause and effect. For example, in the case of teacher knowledge, do teacher content and pedagogical content knowledge explain differences in gains in student achievement? What are the effects on student achievement of increasing high school graduation requirements? What are the effects of requiring low-performing students to go to summer school? There is no end to these pressing and important questions about what works. Although education indicators do an excellent job of providing descriptive information about the inputs, processes, and outputs of education, they can only serve to stimulate hypotheses about what works. Asking questions about cause and effect pushes one toward intervention studies. If teacher knowledge is increased, what are the effects on gains in student achievement?

Although experiments provide the strongest evidence of cause and effect, they are expensive and difficult to conduct. Excellent information about cause and effect can also be obtained through sophisticated statistical analyses of longitudinal studies of students. Fortunately, once again we can turn to NCES for the necessary data. The first national longitudinal study, called the National Longitudinal Study of the High School Class of 1972, surveyed students from this class in their senior year of high school, and in subsequent years as well. Since then, there have been several national longitudinal studies, a few extending down into the lower high school grades and, most recently, one extending from preschool through the first several grades of elementary school. While the NCES indicators reported in *The Condition of Education* cannot provide answers to our "what works" questions of cause and effect, NCES national longitudinal studies have generated a great deal of insight.

Conclusion

Let me close with a couple of comments about NCES itself. I have chaired the Advisory Council on Education Statistics since 1994; and as long ago as 1985, I served on a National Academy of Sciences committee to evaluate the agency. I have worked directly with two NCES commissioners and one acting commissioner.

In 1985, NCES was struggling. I'm happy to report that the agency has addressed its earlier weaknesses and now produces timely and accurate education statistics on a wide variety of important issues. It has gained the respect of its sister statistical agencies in the government. Careful studies reveal the agency's products are seen as useful by a wide variety of audiences. The agency's longitudinal studies are of excellent quality and heavily used by researchers and policy analysts. *The Condition of Education* is one of the longest term continuing publications of the agency and a jewel in the crown of education statistics.

A strong government statistical agency requires political independence. Statistical facts must not be subject to political bias. At the same time, the agency has the responsibility to provide timely, accurate, and useful statistics, leaving interpretation of the causes behind these statistics to others. This is a delicate balance. The 2001 *Condition of Education* appears to be a product where the balance is working.

Research-Based Programs

Invited Commentary: Research-Based Programs to Close Postsecondary Education Gaps

Vinetta C. Jones, Dean, School of Education, Howard University

This commentary represents the opinions of the author and does not necessarily reflect the views of the National Center for Education Statistics.

This year's edition of *The Condition of Education* features an essay that combines and supplements information from several of the report's education indicators to provide a more in-depth exploration of findings on educational opportunities for first-generation college students (those students whose parents did not attend college). I would like to provide a context for and highlight some of the implications of these findings for policymakers, parents, and schools and school districts needing to target limited resources in order for all students to have access to the academic preparation and support needed to close the gaps in college-going and completion rates between first-generation students and those whose parents have attended college.

In addition to *The Condition of Education*, I draw from the research and experience of the EQUITY 2000 program of the College Board and from a set of successful precollege math and science intervention programs that have been targeting first-generation students and underrepresented students of color for the past 30-plus years. The findings in the *Condition* essay are corroborated by the work of EQUITY 2000 and the precollege math/science intervention programs as well as by such earlier reports from the U.S. Department of Education as *Mathematics Equals Opportunity* (Riley 1997) and *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment* (Adelman 1999), which is referenced in the essay.

Research Results

Mathematics Equals Opportunity reported that middle school and high school patterns of coursetaking (including algebra, geometry, and chemistry coursetaking) constituted a very powerful predictor of success in advanced high school courses, college-going and completion rates, lifetime career earnings, and number of times unemployed during one's career. Coursetaking patterns were more important than background variables such as whether students attended public or private schools. Similarly, Adelman found that "... a solid academic core was more strongly correlated with a bachelor's degree than high school test scores, grade point averages, or class rank." He concluded that his study "... strongly bolsters what many school reform advocates have been saying for years: One of the best ways to close the attainment gap between minority and nonminority students is to ensure that all young people complete a solid academic curriculum in high school." This academic curriculum is identified in *The Condition of Education* as the variable that most dramatically narrows the gaps in college-going and completion rates for first-generation students. Labeled "rigorous," this curriculum includes at least 4 years each of English and math (including precalculus), 3 years each of science (including biology, chemistry, and physics) and social studies, and one honors or Advanced Placement (AP) course. It is important to note that completing the rigorous curriculum requires taking algebra in the eighth grade.

Precollege Intervention Programs

Since the late 1960s, math/science precollege intervention programs have attempted to address the issues of equity and excellence in math and science by increasing the number of underrepresented students of color (most of whom are first-generation students) who graduate from high school with the preparation and interest to enroll in and graduate from 4-year colleges in the fields of math, science, engineering, and technology. In these programs, the expected coursetaking sequence is math through calculus; science through biology, chemistry, and physics; 4 years of college-prep English; 3 years of social studies; and 3 years of a foreign language. Students are encouraged to take AP courses. This course of study is almost identical to the "rigorous" high school curriculum that, according to *The Condition of Education*, eliminates the first-generation gap in persistence toward a college degree.

Obstacles to the achievement of underrepresented students have been identified by the most successful of the precollege intervention programs, and program components have been designed to overcome them. The obstacles include inadequate math and science preparation; poor test-taking, reading, and study skills; low expectations on the part of teachers and other school-based adults as well the students themselves; guidance in school toward dead-end courses; few role models with whom the students can identify in math- and science-based fields; and school

environments that allow peer pressure for underachievement to prevail over high academic goals. Another obstacle is unfocused parental support by parents who care about their children, but may be intimidated by the schools, do not understand the consequences of the decisions being made for their children, and do not know how to guide their coursetaking patterns, preparation for college, financial planning, and so on.

MESA (the Mathematics, Engineering, and Science Achievement program) is the oldest and most successful of these programs. It started in Oakland, California, as an outreach program from the University of California at Berkeley incorporating strong partnerships with private industries needing engineers and other scientists. MESA's outcomes with students who traditionally would not be expected to achieve are exemplary and provide hope for those who believe that programs should be held accountable for student outcomes. Ninety percent of MESA high school graduates attend college, and 60 percent of MESA college-goers major in math- or science-based fields. Ninety percent of California's underrepresented engineering baccalaureate recipients are MESA students, MESA students comprise 89 percent of all underrepresented students who transfer as math-based majors to 4-year institutions from community colleges, and over 12 percent of the nation's underrepresented engineering baccalaureate recipients are MESA students (Somerton et al. 1994).

Characteristics of the successful precollege intervention programs include a strong academic thrust, clear and measurable goals, ongoing professional development for staff, high expectations for students and staff, standards for student behavior and involvement, strong support from the district and school, collaboration with partners, substantive parental involvement (stressing the fact that parents do not have to be college graduates themselves to successfully support their children's academic success, but only have to become informed about "what it takes"), role models and mentors who look like the students, and ongoing evaluation of the programs based on student-achievement outcomes.

The EQUITY 2000 Program

Building on the lessons learned from successful precollege intervention programs that target subsets of students, the EQUITY 2000 program of the College Board scaled up the effort to whole school districts. The goal was to close the gaps in college-going and completion rates between disadvantaged, often minority, students and their more advantaged peers. The research underlying this program, based on High School and Beyond data from the 1980s and published in *Changing the Odds: Factors Increasing Access to College* (Pelavin and Kane 1990), found that algebra and geometry act as gatekeepers blocking access to the path of rigorous academic coursework for most minority and disadvantaged students. The study found that when taking algebra and geometry by the 10th grade and having aspirations to go to college were held constant, the gap between these groups essentially disappeared. However, it was also found that only 17 percent of Hispanic students and 19 percent of African American students *ever* took algebra and geometry, because of tracking practices. This research became the basis for the launching of the highly successful districtwide education reform program, EQUITY 2000, that was piloted from 1990 to 1996 in 14 districts serving over 700 schools and 500,000 students in kindergarten through grade 12.

Beginning with the 6-year pilot, EQUITY 2000 has used math as a linchpin in opening access to the path of rigorous coursework across all disciplines for all students. Central to the program are changes in districtwide policies to require that all students enroll in algebra or higher by the 9th grade and geometry or higher by the 10th grade. The program operates in support of successfully eliminating dead-end tracks and building the capacity of teachers, schools, counselors, administrators, and parents to facilitate the success of all students on the path to reaching high standards.

The components of EQUITY 2000 are

- districtwide policy changes, beginning with mathematics;
- ongoing professional development focusing on content and pedagogy, as well as equity, attitudes, and expectations;
- parental/family involvement that demystifies the school system and helps parents become effective advocates, planners, and supporters of their children's education;
- "safety nets" offering academic enrichment to help students reach the high standards (e.g., Saturday academies, study groups, tutors, mentors, summer scholars programs);
- partnerships with community-based organizations, businesses, and higher education institutions; and
- effective use of student enrollment and achievement data to drive decisions and monitor reforms.

Independent evaluators found that by the end of the 6-year pilot, policies were in place eliminating dead-end tracks, and more students were passing the gatekeeper courses of algebra and geometry than were even *taking* them before EQUITY 2000. Enrollments in such accelerated courses as AP increased substantially, especially among African American and Hispanic students, in some cases doubling and tripling. Further, "safety net" enrichment activities for students and ongoing professional development for teachers and counselors had become part of the core budget rather than marginal items.

The impact of EQUITY 2000 on districts and schools across the country has been extensive in bringing about major policy changes; focusing attention on the importance of ongoing professional development for all teachers, counselors, and administrators; providing students with a curriculum that reflects the standards of those in the discipline area (e.g., National Council of Teachers of Mathematics 2000); developing a new vision for guidance counselors that transforms them from gatekeepers into advocates for all students; and highlighting the power of expectations in student achievement.

Important Considerations

I will conclude with some important considerations for parents, policymakers, and school district educators, as well as for those of us from higher education, regarding closing the first-generation gaps in college-going and completion rates:

- Policymakers and those in higher education must understand that preparing the next generation of teachers is at a crisis point. The education of these future teachers must focus on content, pedagogy, technology, diversity, narrowing the gap between theory and practice, and lifelong learning.
- Higher education institutions and schools of education must see that teachers are prepared to effectively use computers, the Internet, and other relevant technology for instruction.
- Policymakers can provide fellowships to higher education institutions with a track record for producing successful teachers who teach in urban and other settings having a large number of students who become the first generation to go to college.
- Successful schools and school districts are focusing on students' coursetaking and learning opportunities, teachers' qualifications and training, and administrators' ability to provide a safe and disciplined school environment.
- Lessons from EQUITY 2000 shed light on the extreme importance of the expectations of teachers and counselors (in addition to the expectations of students and parents). At the eighth-grade level, students and parents from districts that are largely urban, minority, and low income had higher levels of expectations of entering and completing college than did the students' math teachers and counselors. The counselors had the lowest expectations for these students.
- Schools and colleges should reconsider the preservice and inservice education of counselors and their role in closing the gaps in college-going and completion rates between first-generation students and others. Presently, students whose parents did not go to college are not more likely to receive help from their schools in applying to colleges (i.e., completing college applications, preparing admissions essays, arranging days off to visit colleges) (Horn and Nuñez 2000).
- Parents should know that among students who did not exceed the Core New Basics curriculum in high school, first-generation students persisted at a lower rate than students whose parents had bachelor's degrees (55 vs. 69 percent) (National Center for Education Statistics 2001). Among those who took a rigorous high school curriculum, however, the difference (81 vs. 89 percent) was not statistically significant—that is, it was eliminated.
- Parents who have not been to college tend to substantially overestimate the cost. These parents need to know about the many resources available to support their children's college-going effort. If they do not have this information, parents might advise their children that they would not be able to afford college and thus discourage them from preparing themselves.
- Parents increase their children's opportunity for success by participating in various planning activities—such as attending programs on educational opportunities, seeking information on financial aid, and accompanying their children on school visits to decide about application or enrollment (Horn and Nuñez 2000).

- If students take all the necessary steps leading to college enrollment, including preparing academically, taking college entrance examinations (SAT or ACT), applying to a 4-year institution, and being accepted for admission to at least one college, parents' education ceases to be important in enrollment (Berkner and Chavez 1997).
- Policymakers should consider that in 1995–96 47 percent of all beginning postsecondary students—34 percent of those at 4-year institutions—were first generation (Kojaku and Nuñez 1998).

Conclusion

We cannot afford not to win this one. We owe it to the children, we owe it to ourselves, we owe it to the future of this nation to, in the words of Marian Wright Edelman, "Leave no child behind." The urgency and depth of need for meeting this challenge was captured by Glenn T. Seaborg, chemistry Nobel Prize winner and member of the National Commission on Excellence in Education, which issued *A Nation at Risk* (1983), when he stated that each year's class of dropouts costs the nation about $240 million in crime, welfare, health care, and services. Put another way, we spend nine dollars to provide services to dropouts for each dollar spent on education (Somerton et al. 1994).

The urgency of leaving no child behind is captured in another way in a passage from the writing of Toni Morrison:

> Had she paints, or clay, or knew the
> Discipline of dance, or strings; had she
> Anything to engage her tremendous
> Curiosity and her gift for metaphor, she
> Might have exchanged the restlessness
> And preoccupation with whim for any
> Activity that provided her with all she
> Yearned for. And like any artist with no
> Art form, she became dangerous.

We have the opportunity and responsibility to lock arms and move forward together.

References

Adelman, C. (1999). *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment.* U.S. Department of Education, Office of Educational Research and Improvement. Washington, DC: U.S. Government Printing Office.

Berkner, L., and Chavez, L. (1997). *Access to Postsecondary Education for the 1992 High School Graduates* (NCES 98–105). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Horn, L., and Nuñez, A.M. (2000). *Mapping the Road to College: First-Generation Students' Math Track, Planning Strategies, and Context of Support* (NCES 2000–153). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Kojaku, L., and Nuñez, A.M. (1998). *Descriptive Summary of 1995–96 Beginning Postsecondary Students, With Profiles of Students Entering 2- and 4-Year Institutions* (NCES 1999–030). U.S. Department of Education, National Center for Education Statistics. Washington DC: U.S. Government Printing Office.

National Center for Education Statistics. (2001). *The Condition of Education: 2001* (NCES 2001–072). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

National Commission on Excellence in Education. (1983). *A Nation at Risk: The Imperative for Educational Reform.* Washington, DC: U.S. Government Printing Office.

National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics.* Reston, VA: Author.

Pelavin, S., and Kane, M. (1990). *Changing the Odds: Factors Increasing Access to College.* New York: The College Board.

Riley, R.W. (1997, October 20). *Mathematics Equals Opportunity,* white paper prepared for the U.S. Secretary of Education. Washington, DC: U.S. Department of Education.

Somerton, W.H., Smith, M., Finnell, P., and Fuller, T. (1994). *The MESA Way: A Success Story of Nurturing Minorities for Math/Science-Based Careers.* San Francisco: Caddo Gap Press.

The Nation's Report Card: Fourth-Grade Reading 2000
Patricia L. Donahue, Robert J. Finnegan, Anthony D. Lutkus, Nancy L. Allen, and Jay R. Campbell 21

Civics: What Do Fourth-Graders Know, and What Can They Do?
Carol Johnson and Alan Vanneman 25

Civics: What Do Eighth-Graders Know, and What Can They Do?
Carol Johnson and Alan Vanneman 29

Civics: What Do 12th-Graders Know, and What Can They Do?
Carol Johnson and Alan Vanneman 35

Fathers' and Mothers' Involvement in Their Children's Schools by Family Type and Resident Status
Christine Winquist Nord and Jerry West 40

Public School Student, Staff, and Graduate Counts by State: School Year 1999–2000
Ghedam Bairu 44

Internet Access in U.S. Public Schools and Classrooms: 1994–2000
Anne Cattagni and Elizabeth Farris 54

Staff Data Handbook for Elementary, Secondary, and Early Childhood Education: 2001 Edition
Oona Cheung and Beth Aronstamm Young 62

Fourth-Grade Reading

The Nation's Report Card: Fourth-Grade Reading 2000

Patricia L. Donahue, Robert J. Finnegan, Anthony D. Lutkus, Nancy L. Allen, and Jay R. Campbell

This article was originally published as the Executive Summary of the report of the same name. The sample survey data are from the National Assessment of Educational Progress (NAEP) 1992, 1994, 1998, and 2000 Reading Assessments.

The National Assessment of Educational Progress (NAEP) is the nation's only federally mandated survey of student achievement in various subject areas. Authorized by Congress and administered by the National Center for Education Statistics (NCES) in the U.S. Department of Education, NAEP regularly reports to the public on the educational progress of students in grades 4, 8, and 12. In 2000, NAEP conducted a national reading assessment of fourth-grade students.

This report presents the results of the 2000 NAEP fourth-grade reading assessment for the nation. Results in 2000 are compared to results of previous NAEP reading assessments. Students' performance on the assessment is described in terms of average scores on a 0–500 scale and in terms of the percentage of students attaining three achievement levels: *Basic*, *Proficient*, and *Advanced*. The achievement levels are performance standards adopted by the National Assessment Governing Board (NAGB) as part of its statutory

BEST COPY AVAILABLE

responsibilities. They are collective judgments of what students should know and be able to do.

As provided by law, the Commissioner of Education Statistics, upon review of a congressionally mandated evaluation of NAEP, determined that the achievement levels are to be considered developmental and should be interpreted and used with caution. However, both the Acting Commissioner and the Board believe these performance standards are useful for understanding trends in student achievement. They have been widely used by national and state officials, including the National Education Goals Panel, as a common yardstick of academic performance.

In addition to providing average scores and achievement level performance in reading for the nation's fourth-graders, this report provides results for subgroups of fourth-grade students defined by various background and contextual characteristics. A summary of major findings from the 2000 NAEP reading assessment is presented on the following pages.

Reading Scale Score and Achievement Level Results for the Nation

The reading performance of the nation's fourth-graders has remained relatively stable across assessment years. In 2000, the national average scale score of 217 was similar to that in 1992.

Although the national average scale score has remained relatively stable, significant changes are evident at the upper and lower ends of the performance distribution. Higher performing students have made progress: scores at the 75th and 90th percentiles in 2000 were significantly higher than in 1992. In contrast, the score at the 10th percentile in 2000 was significantly lower than in 1992.

In 2000, the percentage of fourth-grade students performing at or above the *Basic* level of reading achievement was 63 percent. Performance at or above the *Proficient* level—the level identified by NAGB as the level that all students should reach—was achieved by 32 percent of fourth-graders. The highest level of performance, the *Advanced* level, was achieved by 8 percent of fourth-graders.

In 2000, the percentages of fourth-graders performing at or above *Proficient* and at *Advanced* were higher than in 1992.

Results for Student Subgroups

Gender

- In 2000, female fourth-grade students had a higher average score than their male peers. The scale score gap between males and females widened since 1998.
- The percentage of females at or above the *Proficient* level exceeded that of males.
- The percentage of female fourth-graders at or above the *Proficient* level in 2000 was higher than in 1992.

Race/ethnicity

- In 2000, White and Asian/Pacific Islander students outperformed their Black, Hispanic, and American Indian/Alaska Native peers.
- A significant increase was observed in the average scale score of Asian/Pacific Islander students, whose 2000 score was higher than in 1992. The 2000 average score of Black students was significantly higher in comparison to 1994.
- The percentages of White and Asian/Pacific Islander students at or above the *Proficient* level exceeded those of other racial/ethnic groups.
- Only among Asian/Pacific Islander students was an increase observed in the percentage at or above *Proficient* since 1992.

Region

- The 2000 results by region show fourth-grade students in the Northeast and Central regions outperforming their counterparts in the Southeast and the West.
- Among students in the Northeast, the average scale score in 2000 was higher in comparison to 1994.
- The Northeast and Central regions had higher percentages of students at or above the *Proficient* level than the Southeast. The Northeast region had a higher percentage of students at or above *Proficient* than the West.

Type of location

- Fourth-grade students in central city schools had a lower average score in 2000 than their peers who attended schools in urban fringe/large town and rural/small town locations.

- Comparisons of achievement level results between locations show a lower percentage of central city students at or above the *Proficient* level than their peers in other types of locations.

Eligibility for free/reduced-price lunch

- In 2000, students who were eligible for the free/reduced-price lunch program had a lower average score than students who were ineligible for the program.
- Achievement level results also show lower performance among students eligible for the program. In 2000, 14 percent of eligible students performed at or above the *Proficient* level in comparison to 41 percent of ineligible students.

Type of school

- Consistent with past NAEP reading assessments, the 2000 results indicate that students attending public schools had lower average reading scale scores than their peers attending nonpublic schools.
- A lower percentage of public school students performed at or above the *Proficient* level in comparison to nonpublic school students.

School and Home Contexts for Learning

Pages read in school and for homework

- Fourth-graders who reported reading more pages daily in school and for homework had higher average scores than students who reported reading fewer pages daily.
- The 2000 results indicate that more fourth-grade students are reading 11 or more pages in school and for homework on a daily basis than in 1992 and 1994.

Time spent doing homework

- Fourth-graders who reported spending a moderate amount of time on homework—one-half hour or one hour daily—had higher average scores than students who reported that they spent more than an hour or that they either did not have or did not do homework.
- The percentage of students in 2000 who reported that they do not have homework was lower in comparison to 1992 and 1994.

Writing about reading

- Fourth-graders who reported writing long answers to questions on tests and assignments that involved reading on a weekly or monthly basis had higher average scores than students who reported doing so once or twice a year, or never or hardly ever.
- The 2000 assessment reports by fourth-graders indicate an increase in the frequency of writing about reading on a weekly basis in comparison to 1994.

Teachers' help with words

- Fourth-grade students who reported that their teachers never or hardly ever helped them break words into parts scored higher than their peers who reported receiving such help daily or weekly.
- Fourth-graders who reported that their teachers helped them understand new words on a weekly or monthly basis scored higher than those who reported receiving this help daily or never or hardly ever.

Reading for fun

- Students who reported reading for fun on their own time every day had higher average scores than students who reported reading for fun less frequently.
- In 2000, 75 percent of fourth-grade students reported reading for fun on their own time at least weekly.

Discussing studies and talking about reading

- Students who reported discussing their studies at home daily, weekly, or monthly had higher average scores than students who reported never or hardly ever having such discussions.
- Students who reported talking about their reading with family and friends on a weekly basis had a higher average score than students who reported engaging in such conversations daily, monthly, or never or hardly ever.
- In 2000, 61 percent of fourth-grade students reported talking about their reading with family or friends at least weekly.

Reading materials in the home

- The average score for students who reported having all four types of reading materials (books, magazines,

newspapers, encyclopedia) in their home was higher than for those who reported having fewer types of reading materials.

- In 2000, a lower percentage of students reported having all four types of reading materials in the home in comparison to 1994.

Time spent watching television

- Students who reported watching 3 or fewer hours of television each day outperformed students who reported watching more television.
- In 2000, the percentages of students who reported watching 4 or more hours of television daily have decreased since 1994 and the percentages of students reporting watching 3 hours or less have increased since 1994.

Transitioning to a More Inclusive NAEP

A second set of results from the 2000 NAEP reading assessment represents the performance of students when testing accommodations are permitted for special-needs students.

- A comparison of the two sets of results shows that the average score for the nation was lower in the results that included the performance of students who needed and were provided with testing accommodations.
- A comparison of the two sets of results for Hispanic students shows that their average score was lower in the results that included the performance of students who needed and were provided with testing accommodations.

Data source: The National Assessment of Educational Progress (NAEP) 1992, 1994, 1998, and 2000 Reading Assessments.

For technical information, see the complete report:

Donahue, P.L., Finnegan, R.J., Lutkus, A.D., Allen, N.L., and Campbell, J.R. (2001). *The Nation's Report Card: Fourth-Grade Reading 2000* (NCES 2001–499).

Author affiliations: P.L. Donahue, R.J. Finnegan, A.D. Lutkus, N.L. Allen, and J.R. Campbell, Educational Testing Service.

For questions about content, contact Sheida White *(sheida.white@ed.gov)*.

To obtain the complete report (NCES 2001–499), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov)*, or contact GPO (202–512–1800).

Fourth-Grade Civics

Civics: What Do Fourth-Graders Know, and What Can They Do?

Carol Johnson and Alan Vanneman

This article was originally published as a NAEPfact. The sample survey data are from the National Assessment of Educational Progress (NAEP) Civics Assessment.

Overview

The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment measured students' knowledge, their intellectual and participatory skills, and their civic dispositions at the 4th, 8th, and 12th grades. This issue of *NAEPfacts* describes fourth-graders' performance on 30 questions from the fourth-grade assessment.

Introduction

The goal of the NAEP 1998 Civics Assessment was to measure how well American youth are being prepared to meet their citizenship responsibilities. One way to obtain an understanding of the range of student performance is to look at individual questions on the assessment and the percentage of students who gave a correct response to these questions.

The assessment administered to fourth-grade students included 90 questions. Thirty of these questions, together with student performance data, scoring information, and additional data, are available at the NAEP Web Site (*http://nces.ed.gov/nationsreportcard/*).

This issue of *NAEPfacts* arranges these 30 questions in order of difficulty, as determined by the percentage of fourth-grade students who answered them correctly. These 30 questions provide examples of student performance but do not give a representative sample of the complete range of questions on the assessment. The National Center for Education Statistics (NCES) is unable to release enough questions to provide a fully representative sample. Most questions must be kept confidential so that they can be reused on future assessments, permitting comparability of results for the assessments.

The framework for the 1998 civics assessment specifies three interrelated components that, taken together, reflect broad civic competency: *knowledge, intellectual and participatory skills,* and *civic dispositions* (National Assessment Governing Board 1996). Each assessment question has a knowledge and intellectual skills component. Some of the questions also measure participatory skills and/or civic dispositions.

The questions required fourth-graders to answer questions based on a variety of materials. The assessment was designed to evaluate students' ability to recall specific information, make inferences based on a written passage or graphical stimulus (e.g., a political cartoon or a photograph), or perform more analytical or evaluative tasks such as distinguishing opinion from fact or defending a position.

For example, students were shown a picture of the Statue of Liberty and were asked if it was "a symbol of A) power, B) equality, C) intelligence, D) liberty." Ninety-one percent recognized that "D" was the correct answer. Frequently, students would be asked several questions on a single topic. For example, students were asked three questions about the difference between a "rule" in a movie theater that prevented patrons from bringing their own food and a "law" that limited the number of people who could enter the theater.

Twenty-three of the 30 released questions are multiple-choice questions with four possible answers. This means that students had one chance in four of getting these questions right merely by guessing.

The remaining seven sample questions are "constructed-response" questions, which require students to write their answers. It is harder for students to get these questions right by guessing. Short constructed-response questions have three possible scores—"complete," "partial," and "unacceptable." Extended constructed-response questions have four possible scores—"complete," "acceptable," "partial," and "unacceptable."

For purposes of this analysis, only "complete" and "acceptable" answers to extended constructed-response questions are given credit. For short constructed-response questions, only "complete" answers are given credit.

Fourth-Graders' Performance on 30 Sample Questions

The following are summary descriptions of 30 sample questions from the NAEP 1998 Civics Assessment for the fourth grade, arranged by the percentage of students who answered them correctly, from the highest to the lowest.

Multiple-choice questions are identified by an "(MC)" at the end of the question. For these questions students were choosing the "best" answer available, which was not necessarily the answer they would have given themselves. Each constructed-response question includes the full text of a student's answer that received a "complete" score, with students' grammatical and other errors left unchanged.

Questions that at least 75 percent of students answered correctly

- 91 percent of students could identify the statue below as a symbol of "liberty." (MC)

UPI-Corbis/Bettmann

- 78 percent recognized that "They work together to keep peace in the world" means that the representatives to the United Nations talk to each other to try to solve problems without fighting. (MC)
- 77 percent knew that citizens of the United States who are at least 18 years old have the right to vote. (MC)
- 77 percent knew that July 4 is a national holiday that celebrates the day when the American colonies declared their independence. (MC)
- 75 percent knew that in the United States, people who are arrested have the right to talk to a lawyer. (MC)

Questions that between 50 and 74 percent of students answered correctly

- 74 percent of students knew that in the United States, laws must be applied to everyone equally. (MC)
- 73 percent knew that one important reason why many people in the United States might want to lower taxes is to help families save more money. (MC)
- 70 percent understood that a student concerned that the playing fields at her school have become littered with trash could best show her civic responsibility by organizing local scout troops to clean up the playing fields. (MC)
- 69 percent knew that one way a person can become a U.S. citizen is by living legally in the United States for 5 years and passing a special test. (MC)
- 69 percent knew that the purpose of the United Nations is to promote international peace and security. (MC)
- 68 percent could recognize that the most democratic way for a fourth-grade class, given the opportunity to prepare its own lunch, to decide on the menu would be to have the students make a list of their favorite foods and vote on what to serve. (MC)
- 67 percent gave either a "complete" (26 percent) or an "acceptable" (41 percent) answer to a two-part question about police officers. Students were first asked "what is wrong" with the ideas of a student who wanted to be a police officer because "the police get to wear fancy uniforms with badges, use handcuffs, and drive cars as fast as they want." They were then asked to give two good reasons for being a police officer. A student who received a score of "complete" answered to the first part of the question that "It's not just wearing fansy uniforms the job is to keep people safe" and responded to the second part by writing "1) you get to help your country. 2) You get to hepl keep people safe from crimanals."
- 66 percent understood that the phrase "I pledge allegiance to the flag" in the Pledge of Allegiance

means "I promise to be loyal to the ideals of the United States." (MC)

- 65 percent understood that members of city councils make local laws. (MC)
- 62 percent understood that the fire inspector limits the number of people who are allowed in a movie theater at one time to protect the safety of the people in the theater. (MC)
- 58 percent understood that a movie theater does not allow you to bring food into a theater because the owners of the theater want you to buy the food they sell inside. (MC)
- 55 percent knew that one important reason why some people might want to have taxes raised is to help pay for education. (MC)

Questions that between 25 and 49 percent of students answered correctly

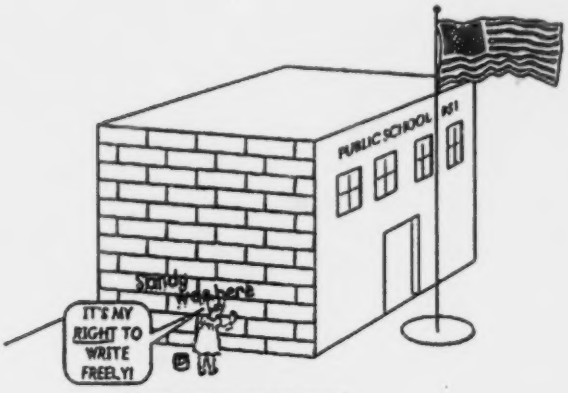
- 49 percent of students understood that the most important reason why the United States trades with other countries is that it helps people get the things they need. (MC)
- 48 percent gave either a "complete" (30 percent) or an "acceptable" (18 percent) answer to a question that asked students to imagine that they owned a theater. Students were to propose either a rule (such as one prohibiting customers from bringing their own food) or a law (such as one limiting the number of persons who could occupy a room) and explain why they wanted that rule or law. A student who received a score of "complete" answered, "[My rule is] keep your feet off the seats. [I want the rule] so others can see."
- 47 percent knew that in democracies citizens elect people to make laws for them because it is easier than having everyone vote on every decision. (MC)
- 45 percent recognized that both citizens and noncitizens in the United States are legally entitled to have the protection of our laws. (MC)
- 43 percent knew that the President's role in making laws is to sign congressional bills into law. (MC)
- 38 percent understood that people who are legal residents of the United States but not citizens can own property. (MC)
- 38 percent gave either a "complete" (16 percent) or an "acceptable" (22 percent) answer to a question asking students to explain why a sign in a movie theater prohibiting customers from bringing their own food into the theater was an example of a rule rather than a law. A student who received a score of "complete" answered "a law is what a government makes and a rule is what a person makes."
- 26 percent correctly interpreted the message of the cartoon below to mean that democracy could be in danger if people do not vote. (MC)

Questions that less than 25 percent of students answered correctly

- 24 percent of students knew that the three parts of the federal government are legislative, executive, and judicial. (MC)
- 15 percent received a "complete" score when asked to name two services government pays for with taxes. A student receiving a "complete" score wrote "1) Road repairing and 2) Education."
- 8 percent received a "complete" score when asked whether a voting system that allows students to "vote" by putting nickels in a jar should be considered "democratic." A student who gave a "complete" answer wrote, "No, because some people probable don't have any nickles."
- 7 percent received a "complete" score when asked to identify and explain "the most democratic way" of selecting a book to be read aloud in class. A student who gave a "complete" answer wrote that "What ever book that has the must votes will be the book that

they read out loud" and that "This will be the must democratic way because what ever book that has the must people voting for it."

- 5 percent received a "complete" score when asked to describe the "message" of the cartoon below. A student who gave a "complete" answer wrote that "It's that some people think they're free to do anything they want to but theres somethings people just cant do. Like writing on the side of a school, you could write on paper."



IS THIS FREEDOM OF SPEECH?

Reference

National Assessment Governing Board. (1996). *Civics Framework for the 1998 National Assessment of Educational Progress.* Washington, DC: Author. Available: *http://www.nagb.org/pubs/civics.pdf*

Data source: The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment.

For technical information, see

Lutkus, A.D., Weiss, A.R., Campbell, J.R., Mazzeo, J., and Lazer, S. (1999). *NAEP 1998 Civics Report Card for the Nation* (NCES 2000–457).

Author affiliations: C. Johnson, NCES; A. Vanneman, Education Statistics Services Institute (ESSI).

For questions about content, contact Carol Johnson *(carol.johnson@ed.gov).*

To obtain this NAEPfact (NCES 2001–460), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

Eighth-Grade Civics

Civics: What Do Eighth-Graders Know, and What Can They Do?

Carol Johnson and Alan Vanneman

This article was originally published as a NAEPfact. The sample survey data are from the National Assessment of Educational Progress (NAEP) Civics Assessment.

Overview

The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment measured students' knowledge, their intellectual and participatory skills, and their civic dispositions at the 4th, 8th, and 12th grades. This issue of *NAEPfacts* describes eighth-graders' performance on 37 questions from the eighth-grade assessment.

Introduction

The goal of the NAEP 1998 Civics Assessment was to measure how well American youth are being prepared to meet their citizenship responsibilities. One way to obtain an understanding of the range of student performance is to look at individual questions on the assessment and the percentage of students who gave a correct response to these questions.

The assessment administered to eighth-grade students included 151 questions. Thirty-seven of these questions, together with student performance data, scoring information, and additional data, are available at the NAEP Web Site (*http://nces.ed.gov/nationsreportcard/*).

This issue of *NAEPfacts* arranges the 37 released questions in order of difficulty, as determined by the percentage of eighth-grade students who answered them correctly. These 37 questions provide examples of student performance but do not give a representative sample of the complete range of questions on the assessment. The National Center for Education Statistics (NCES) is unable to release enough questions to provide a fully representative sample. Most questions must be kept confidential so that they can be reused on future assessments, permitting comparability of results for the assessments.

The framework for the 1998 civics assessment specifies three interrelated components that, taken together, reflect broad civic competency: *knowledge*, *intellectual and participatory skills*, and *civic dispositions* (National Assessment Governing Board 1996). Each assessment question has a knowledge and intellectual skills component. Some of the questions also measure participatory skills and/or civic dispositions.

The questions required eighth-graders to read and answer questions based on a variety of materials. The assessment was designed to evaluate students' ability to recall specific information, make inferences, or perform more analytical or evaluative tasks such as distinguishing opinion from fact or defending a position.

For example, students were asked, "Which of the following documents describes the powers of the President of the United States? A) The Declaration of Independence, B) The Mayflower Compact, C) The Constitution, D) The Articles of Confederation." Forty-eight percent recognized that "C" was the correct answer.

Frequently, students would be asked several questions on a single topic. For example, students were asked three questions about a quotation on civil disobedience from Martin Luther King, Jr.'s *Letter From Birmingham Jail*.

Thirty of the 37 questions displayed in this issue of *NAEPfacts* are multiple-choice questions with four possible answers. This means that students had one chance in four of getting these questions right, merely by guessing.

The remaining seven sample questions are "constructed-response" questions, which require students to write their answers. It is harder for students to get these questions right by guessing. Short constructed-response questions have three possible scores—"complete," "partial," and "unacceptable." Extended constructed-response questions have four possible scores—"complete," "acceptable," "partial," and "unacceptable."

For purposes of this analysis, only "complete" and "acceptable" answers to extended constructed-response questions are reported. For short constructed-response questions, only "complete" answers are reported.

Eighth-Graders' Performance on 37 Sample Questions

The following are summary descriptions of 37 sample questions from the NAEP 1998 Civics Assessment for the eighth grade, arranged by the percentage of students who answered them correctly, from the highest to the lowest.

Multiple-choice questions are identified by an "(MC)" at the end of the question. For these questions students were choosing the "best" answer available, which was not necessarily the answer they would have given themselves. Each constructed-response question includes the full text of a student's answer that received a "complete" score, with students' grammatical and other errors left unchanged.

Questions that at least 75 percent of students answered correctly

- 85 percent of students knew that the World War I poster below was intended to get people to join the army by appealing to patriotic feelings. (MC)

Library of Congress

- 81 percent recognized that, according to standards set forth by Martin Luther King, Jr., a law that requires segregation of the races is unjust. (MC)
- 78 percent recognized that the photograph below illustrates the secret ballot. (MC)

Corbis-Bettmann

- 77 percent recognized that one step the United Nations could take to prevent two nations from going to war would be to arrange for diplomatic negotiations between the two countries. (MC)
- 77 percent knew that the Bill of Rights mostly addresses the rights of individuals. (MC)
- 75 percent understood from an anecdote about Susan B. Anthony that the U.S. Constitution did not say that it was illegal for women to vote. (MC)

Questions that between 50 and 74 percent of students answered correctly

- 71 percent of students recognized that taking part in peaceful demonstrations and boycotts would be the response to an unjust law that is most consistent with Martin Luther King, Jr.'s ideas. (MC)
- 71 percent understood that Congress has been able to expand the powers of the federal government based largely on its authority to make all laws necessary to perform its duties. (MC)
- 62 percent were able to use the charts below to determine that people are most likely to volunteer for organizations that focus on community affairs. (MC)

Chart I

In What Areas Do People Volunteer?	Percentage
Education	44%
Youth organizations	41
Health care	34
Poverty and hunger	23
Arts and culture	16
Politics	16
The environment	13

Chart II

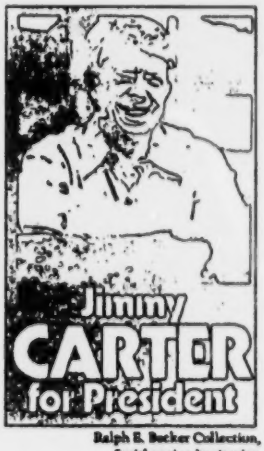
Why Do People Volunteer?	Percentage
I want to help others	97%
I enjoy the work	93
The specific work or cause interests me	89
I feel a responsibility to volunteer	76
To make new friends	40
To get job experience	15
My employer encourages volunteering	10

BEST COPY AVAILABLE

- 61 percent recognized that the cartoonist who created the cartoon below would be likely to support strengthening the World Court's ability to resolve conflicts. (MC)

- 60 percent understood that Richard Nixon's poster emphasizes his political experience, while Jimmy Carter's poster portrays him as a political outsider. (MC)

Ralph E. Becker Collection, Smithsonian Institution

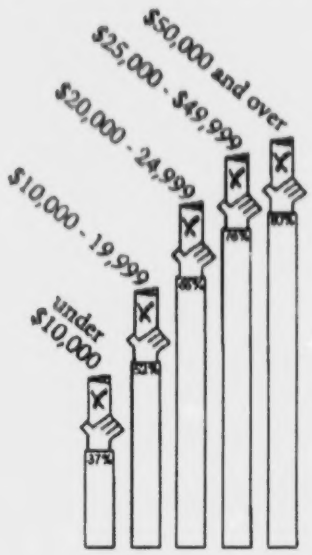


Ralph E. Becker Collection, Smithsonian Institution

- 59 percent understood the graph below to show that the higher someone's income is, the more likely he or she is to vote. (MC)

REPORTED VOTER TURNOUT BY AVERAGE INCOME, 1992

(as a percentage of voting-age population)



- '58 percent recognized that someone convicted of stealing a candy bar and sentenced to 50 years in prison might challenge the sentence by citing the Eighth Amendment. (MC)
- 58 percent understood that according to the Bill of Rights, the fact that only some rights are listed does not mean that the people have no others. (MC)
- 52 percent recognized that if the places of worship in Town X join together to provide food and shelter for the homeless, this is an example of civil society rather than government. (MC)
- 52 percent knew that because of the Fourth Amendment there are legal limits on the power of police to enter your home. (MC)
- 51 percent understood that the story of Susan B. Anthony's attempt to register is an example of people peacefully protesting against a law they believe is wrong. (MC)

- 50 percent understood that Congress can pass a bill even if the President disagrees with the bill because Congress is the primary legislative power of the government. (MC)

Questions that between 25 and 49 percent of students answered correctly

- 48 percent of students knew that the U.S. Constitution describes the powers of the President of the United States. (MC)
- 46 percent understood the meaning of the cartoon below to be that before the passage of the Fourteenth Amendment state governments did not have to follow the Bill of Rights. (MC)

- 46 percent understood the cartoon below to mean that well-funded special interest groups have privileged access to Congress. (MC)

Copyright © 1979 The Commercial Appeal. Reprinted by permission.

- 42 percent recognized that a statement by Chief Justice Earl Warren on the power of the Supreme Court to determine the meaning of a law describes the Court's function of judicial review. (MC)
- 35 percent knew that the number of electoral votes allotted to each state is based on its representation in Congress. (MC)
- 34 percent recognized that the meaning of the cartoon below is that human beings are much more advanced in science than in their ability to get along. (MC)

Parrish – Chicago Tribune/New York Times Syndicate, Inc.

- 32 percent knew that the Fourteenth Amendment was designed to protect former slaves. (MC)
- 31 percent received either "complete" (13 percent) or "acceptable" (18 percent) scores when asked to choose three areas of volunteer activity from a list, identify for each one a specific action individuals can take outside their homes, and explain how it will make a difference in their own community. A student receiving a "complete" score wrote "1) The environment: People can get together and pick-up trash along side a road or lake. This would help the environment by keeping animals from getting hurt by the trash. 2) Youth organizations: People could form groups and have after school activities until about when parents get home from work. That would help keep kids off the street. 3) Education: Smarter adults or teens could become tutors for other children who need extra help. That would help keep children up with the rest of their class."

- 31 percent knew that the section of the Fourteenth Amendment stating that the government will not interfere with a person's right to life, liberty, or property without following established rules is referred to as the "due process" clause. (MC)
- 31 percent recognized that an effective argument against allowing the Supreme Court to determine what a law means is that "It is dangerous to give nonelected officials such as judges so much power in the government." (MC)
- 26 percent understood that the State Department is primarily responsible for carrying out U.S. foreign policy. (MC)
- 26 percent received a "complete" score when asked, "In addition to voting and being a candidate, what are two ways that citizens can be involved in presidential campaigns and elections?" A student who received a "complete" score wrote, "1) They may create signs and posters, etc. to help campaign for their choice. 2) They may write editorials or media objections and concerns about a certain candidate."

Questions that less than 25 percent of students answered correctly

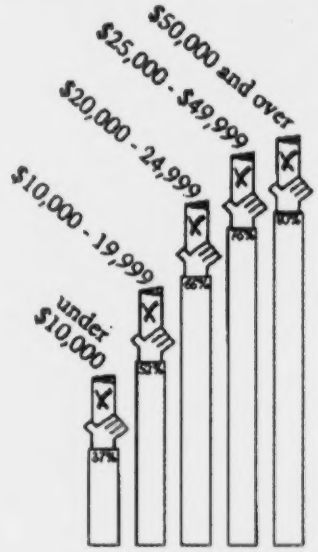
- 22 percent of students recognized that labor unions, civil rights groups, business associations, and environmental organizations all try to influence public policy and get people elected. (MC)
- 21 percent knew that in a totalitarian system there are few checks on the powers of the ruler. (MC)
- 17 percent gave a "complete" answer to a two-part question asking both for an argument in support of the statement that "one has a moral responsibility to disobey unjust laws" and an example of the negative consequences of using civil disobedience to challenge the law. A student receiving a "complete" score wrote, "If there is a law that goes against the constitution and against your moral beliefs you shouldn't have to follow it" and "Using civil disobedience cause outbreaks or riots."
- 13 percent received a "complete" score for giving two specific examples of how the U.S. Constitution limits the power of the government. A student receiving a "complete" score wrote "1) Through separation of powers. 2) Through judicial review."
- 10 percent received a "complete" score when asked what the cartoon below says "about how American government is organized" and to explain "why American government is organized this way." The character at the left has just been asked by the aliens to "Take us to your leader." A student receiving a "complete" score wrote that American government "is organized in different levels of power. It is organized this way because there are certain things not important enough for the president to take care of (community problems), so there are smaller levels to work on smaller problems."

Copyright © 1979 by The Chicago Tribune

- 6 percent received a "complete" score when asked to give a valid reason for the pattern of voter turnout shown in the graph below. A student receiving a "complete" score wrote, "The poorer people either don't care or they think that their vote does not matter."

REPORTED VOTER TURNOUT BY AVERAGE INCOME, 1992

(as a percentage of voting-age population)



- 6 percent received a "complete" score when asked to give two reasons why it can be useful for a country to have a constitution. A student receiving a "complete" score wrote "1) So that we have rights and we can limit the government's power. 2) So we can control how our government is running."

Reference

National Assessment Governing Board. (1996). *Civics Framework for the 1998 National Assessment of Educational Progress.* Washington, DC: Author. Available: *http://www.nagb.org/pubs/civics.pdf*

Data source: The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment.

For technical information, see

Lutkus, A.D., Weiss, A.R., Campbell, J.R., Mazzeo, J., and Lazer, S. (1999). *NAEP 1998 Civics Report Card for the Nation* (NCES 2000–457).

Author affiliations: C. Johnson, NCES; A. Vanneman, Education Statistics Services Institute (ESSI).

For questions about content, contact Carol Johnson *(carol.johnson@ed.gov).*

To obtain this NAEPfact (NCES 2001–462), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

12th-Grade Civics

Civics: What Do 12th-Graders Know, and What Can They Do?

Carol Johnson and Alan Vanneman

This article was originally published as a NAEPfact. The sample survey data are from the National Assessment of Educational Progress (NAEP) Civics Assessment.

Overview

The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment measured students' knowledge, their intellectual and participatory skills, and their civic dispositions at the 4th, 8th, and 12th grades. This issue of *NAEPfacts* describes 12th-graders' performance on 38 questions from the 12th-grade assessment.

Introduction

The goal of the NAEP 1998 Civics Assessment was to measure how well American youth are being prepared to meet their citizenship responsibilities. One way to obtain an understanding of the range of student performance is to look at individual questions on the assessment and the percentage of students who gave a correct response to these questions.

The assessment administered to 12th-grade students included 152 questions. Thirty-eight of these questions, together with student performance data, scoring information, and additional data, are available at the NAEP Web Site (*http://nces.ed.gov/nationsreportcard/*).

This issue of *NAEPfacts* arranges the 38 released questions in order of difficulty, as determined by the percentage of 12th-grade students who answered them correctly. These 38 questions provide examples of student performance but do not give a representative sample of the complete range of questions on the assessment. The National Center for Education Statistics (NCES) is unable to release enough questions to provide a fully representative sample. Most questions must be kept confidential so that they can be reused on future assessments, permitting comparability of results for the assessments.

The framework for the 1998 civics assessment specifies three interrelated components that, taken together, reflect broad civic competency: *knowledge*, *intellectual and participatory skills*, and *civic dispositions* (National Assessment Governing Board 1996). Each question has a knowledge and intellectual skills component. Some of the questions also measure participatory skills and/or civic dispositions.

The questions required 12th-graders to read and answer questions based on a variety of materials. The assessment was designed to evaluate students' ability to recall specific information, make inferences, or perform more analytical or evaluative tasks such as distinguishing opinion from fact or defending a position.

For example, students were asked, "The primary purpose of the Bill of Rights was to A) limit the spread of slavery in the United States, B) limit the power of the federal government, C) establish judicial review, D) allot specific powers to the states." Sixty-five percent realized that "B" was the correct answer.

Frequently, students would be asked several questions on a single topic. For example, students were given four questions to answer about the U.S. Supreme Court's 1905 decision in the case of *Lochner vs. New York*.

Thirty-one of the 38 available questions from the 12th-grade assessment are multiple-choice questions with four possible answers. This means that students had one chance in four of getting these questions right, merely by guessing.

The remaining seven sample questions are "constructed-response" questions, which require students to write their answers. It is harder for students to get these questions right by guessing. Short constructed-response questions have three possible scores—"complete," "partial," and "unacceptable." Extended constructed-response questions have four possible scores—"complete," "acceptable," "partial," and "unacceptable."

For purposes of this analysis, only "complete" and "acceptable" answers to extended constructed-response questions are reported. For short constructed-response questions, only "complete" answers are reported.

12th-Graders' Performance on 38 Sample Questions

The following are summary descriptions of 38 sample questions from the NAEP 1998 Civics Assessment for the 12th grade, arranged by the percentage of students who answered them correctly, from the highest to the lowest. Multiple-choice questions are identified by an "(MC)" at the end of the question. For these questions students were choosing the "best" answer available, which was not necessarily the answer they would have given themselves. Each constructed-response question includes the full text of a student's answer that received a "complete" score, with students' grammatical and other errors left unchanged.

Questions that at least 75 percent of students answered correctly

- 90 percent of students recognized that the American Association of Retired Persons would be likely to be opposed to severe cutbacks in the Social Security program. (MC)
- 83 percent understood that one explanation for the data shown in the graph below is that local governments employ more people than do state or federal governments because local governments meet the direct needs of so many people in so many different places. (MC)

- 76 percent recognized that the First Amendment to the U.S. Constitution and Article 22 of the United Nations Universal Declaration of Human Rights show a common concern for individual rights. (MC)

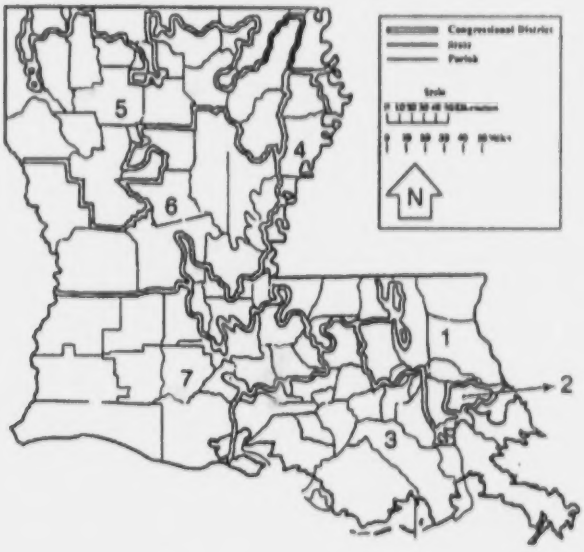
Questions that between 50 and 74 percent of students answered correctly

- 73 percent of students recognized that the federal government would likely become involved in the decision about where to locate a landfill if the landfill threatened to cause the quality of the reservoir water to fall below the standards set by the Environmental Protection Agency (EPA). (MC)
- 72 percent understood that the framers of the Constitution wanted to limit the power of majorities in order to protect the rights of individuals and minorities. (MC)
- 69 percent correctly interpreted the following statement by Judge Learned Hand to mean that individual liberties depend on citizens committed to the protection of those liberties:

  > I often wondered whether we do not rest our hopes too much upon constitutions, upon laws and upon courts. These are false hopes; believe me, these are false hopes. Liberty lives in the hearts of men and women; when it dies there, no constitution, no law, no court can save it. (MC)

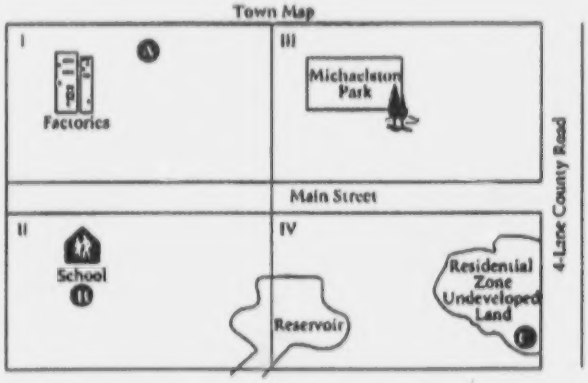
- 67 percent knew that *Plessy v. Ferguson* allowed states to have "separate but equal" educational facilities. (MC)
- 65 percent recognized that the primary purpose of the Bill of Rights was to limit the power of the federal government. (MC)
- 61 percent recognized that the attitudes toward government regulation expressed in the U.S. Supreme Court's 1905 decision in *Lochner v. New York* have changed and that it is generally accepted that the government should defend the health and safety of workers. (MC)
- 60 percent recognized that students objecting to a decision to locate a landfill near their school could act to prevent it from happening by appearing before the town council to request that the landfill be placed elsewhere. (MC)
- 59 percent received a "complete" score when asked to describe two factors besides political party identification that influence voter preference. A student who received a "complete" score wrote, "1) Where a certain candidate stands on specific issues. 2) Information about the candidate's past life or political life."

- 59 percent understood that the quotation from Judge Learned Hand (on facing page) implies that Americans can best protect their freedoms through political participation. (MC)
- 59 percent realized that there may be more than the current seven congressional districts in Louisiana in the year 2002 if the year 2000 census indicates that the population of Louisiana increased proportionately more than that of other states. (MC)
- 58 percent understood that the U.S. Supreme Court's decision in *Brown v. Board of Education* resulted in the federal government exerting greater influence in a policy area that had been dominated by states and municipalities. (MC)
- 55 percent understood that the "Connecticut Compromise" at the Constitutional Convention in 1787 meant that Congress would have two houses, one in which state representation was based on population and one in which all states had equal representation. (MC)
- 55 percent understood that a statement by John Locke, "Absolute arbitrary power, or governing without settled laws, can neither of them be consistent with the ends of society and government," argues that governmental power should be limited. (MC)
- 53 percent understood that the congressional district boundaries shown on the map below were probably drawn by the Louisiana state legislature. (MC)



- 51 percent understood from the diagram below that a person wishing to open a business in zone III would need to get a zoning variance from the "Michaelston" town planning board. (MC)

MICHAELSTON
Town Map



Zone

I. Industrial
II. Residential/light industry
III. Residential – high occupancy/multifamily houses allowed
IV. Residential – minimum 1-acre lots

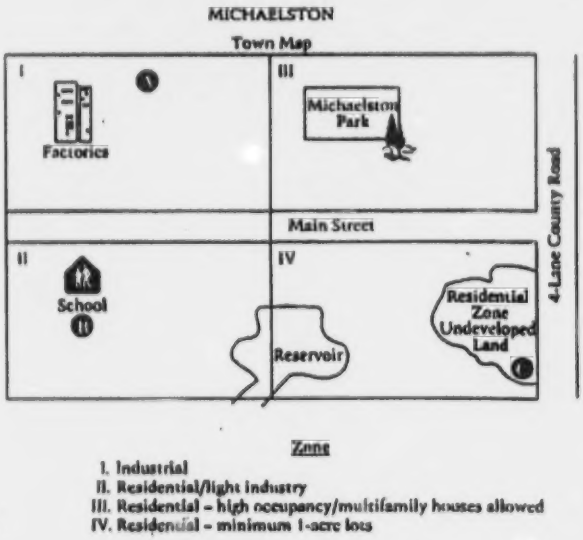
Questions that between 25 and 49 percent of students answered correctly

- 48 percent of students recognized that documents such as the United Nations Universal Declaration have been opposed by some U.S. citizens because some people fear that international agreements might force the United States to act in ways not consistent with its national interest. (MC)
- 47 percent understood from the map of Louisiana (at left) that congressional district 2 in Louisiana must include a large urban area. (MC)
- 47 percent understood that the state government would be most likely to become involved in the decision about where to locate a landfill if developers tried to put the landfill on a site that was likely to affect agriculture in other counties in the state. (MC)
- 46 percent understood that countries with proportional representation systems tend to have more political parties than those with single-member district systems because parties in proportional representation systems do not have to win a majority of the vote in any district, making it easier for smaller parties to gain representation in the legislature. (MC)

- 45 percent understood that while Congress and the courts have some authority over foreign policy, the President and the state department have the greatest authority. (MC)
- 40 percent knew that the system of school segregation overturned by the U.S. Supreme Court in *Brown v. Board of Education* was the result of state laws. (MC)
- 40 percent understood that one argument in favor of a single-member district system as opposed to a proportional representation system is that the former system requires voters to make choices about individual candidates rather than simply vote for a party. (MC)
- 39 percent understood that one argument for a proportional representation system is that in such a system the balance of power in the legislature is more representative of the popular vote. (MC)
- 37 percent received a "complete" score when asked to describe one policy area in which state governments affect the lives of citizens and to describe one way in which citizens can affect state government's policy in this area. A student who received a "complete" score wrote that "1) The policy of obtaining a driver's license affects citizens because each state has different procedures, rules, and regulations. If you want to drive you must comply. 2) By voting on propositions that were created to change these rules, citizens can affect state government's policy in this area."
- 36 percent knew that the Supreme Court, to support its decision in *Brown v. Board of Education*, most likely cited the Fourteenth Amendment rather than Article 4 of the Constitution, the Tenth Amendment, or the Thirteenth Amendment. (MC)
- 35 percent understood that Justice Peckham, who wrote the majority opinion in *Lochner v. New York*, argued for judicial activism to limit government power, while Justice Harlan, author of the minority opinion, argued for judicial restraint, but for a more active role by government. (MC)
- 31 percent knew that most bills introduced in the House of Representatives are never sent by committees to the full House. (MC)
- 30 percent understood that the Supreme Court's 1905 decision in *Lochner v. New York* ruled that a law limiting the number of hours people could work was unconstitutional. (MC)
- 30 percent recognized that the Supreme Court's power to overturn unconstitutional laws is a limit on the power of majorities. (MC)
- 25 percent received a "complete" score when asked to list two ways the American system of government is designed to prevent "absolute arbitrary power." A student receiving a "complete" score wrote that "1) the legislative branch, judicial branch, & executive branch checks & balances each other so no one gets too powerful. 2) The Constitution & amendments are made so that people know what the laws are."
- 25 percent understood that the majority decision in *Lochner v. New York* is supported by the idea that government should play as small a role as possible in civil society and the economy. (MC)

Questions that less than 25 percent of students answered correctly

- 24 percent of students received a "complete" score when asked to give two possible explanations for congressional districts with irregular boundaries. A student who received a "complete" score wrote that "1) The districts may have been gerrymandered to promote the election of a specific party. 2) the boundaries may have been drawn to get an equal proportion of the population for each district."
- 23 percent gave a "complete" answer when asked to use the map of "Michaelston" (below) to determine whether a landfill was most likely to be located at site A, B, or C and to explain why it was more likely to be located at the site they chose than at the other two



sites. A student giving a "complete" answer wrote, "A, because it would be closer to the industries which produce a lot of waste instead near people's homes."

- 10 percent gave either a "complete" (1 percent) or an "acceptable" (9 percent) answer when asked to explain the significance of the figure of justice below and give one reason why the values are important to American constitutional democracy. A student giving a "complete" answer wrote that "Justice does not care who you are is what the blindfold stands for. The Scales represent, that Justice will be fair and even in her ruling. Without an honest and fair judiciary system we will become corrupt an uneffective."

- 9 percent gave a "complete" answer when asked to explain two ways that democratic society benefits from citizens actively participating in the political process. A student giving a "complete" answer wrote that "1) When citizens voice their opinion, congressmen see a variety of views from their constituents. Using all of these views, he can better act in favor of those he is representing. 2) Active participation in a democracy also limits any chance of dictatorship. It is virtually impossible for a majority to approve this with the system of federation provided by our constitution & our system of checks & balances. Citizens can protest if they see something they don't like & work together to get rid of it."

Reference

National Assessment Governing Board. (1996). *Civics Framework for the 1998 National Assessment of Educational Progress*. Washington, DC: Author. Available: *http://www.nagb.org/pubs/civics.pdf*

Data source: The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment.

For technical information, see

Lutkus, A.D., Weiss, A.R., Campbell, J.R., Mazzeo, J., and Lazer, S. (1999). *NAEP 1998 Civics Report Card for the Nation* (NCES 2000–457).

Author affiliations: C. Johnson, NCES; A. Vanneman, Education Statistics Services Institute (ESSI).

For questions about content, contact Carol Johnson *(carol.johnson@ed.gov)*.

To obtain this* NAEPfact *(NCES 2001–461), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov)*.

Parents' School Involvement

Fathers' and Mothers' Involvement in Their Children's Schools by Family Type and Resident Status

Christine Winquist Nord and Jerry West

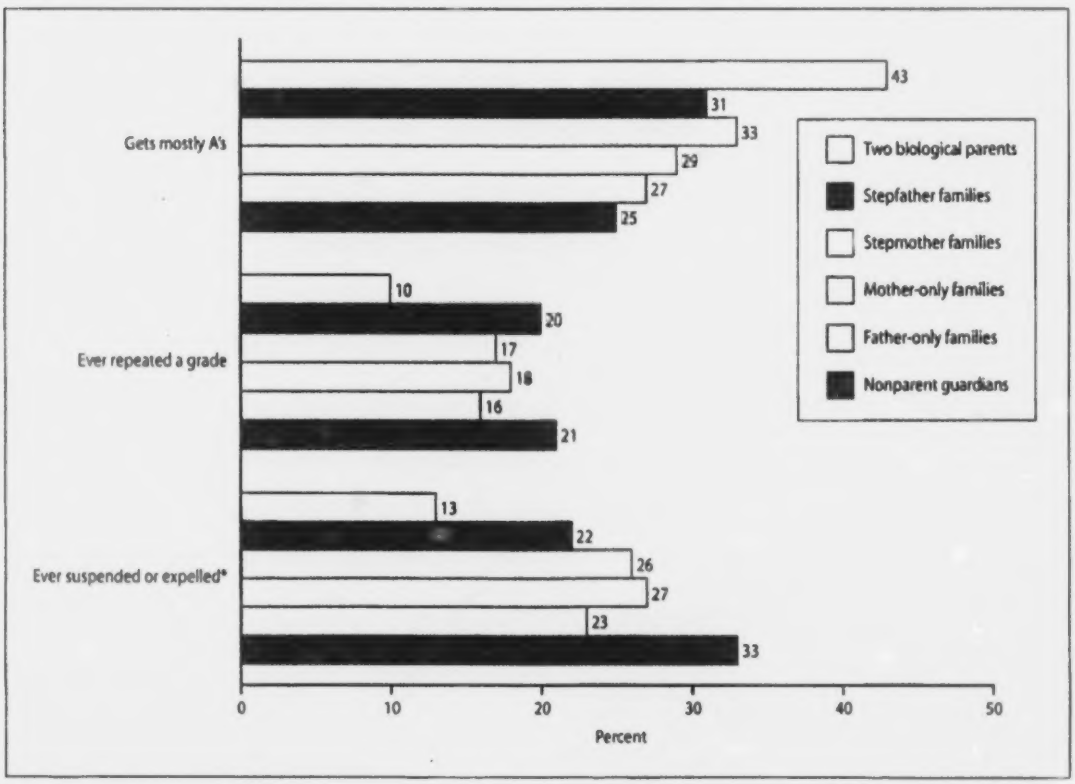
This article was originally published as the Highlights of the Statistical Analysis Report of the same name. The sample survey data are from the NCES National Household Education Surveys Program (NHES).

Introduction

Due to the prevalence of divorce and nonmarital childbearing in the United States, many students enrolled in grades 1 through 12 do not live with both their biological parents (Furstenberg and Cherlin 1991). In 1996, 57 percent of students in these grades lived with two biological parents, while the remaining 43 percent lived in some other family living arrangement. Studies have found that students who live apart from one or both of their biological parents tend to do less well in school than students who live with both their biological parents (figure A; Zill 1996; McLanahan and Sandefur 1994; Lee 1993). Some observers have speculated that differences in levels of parents' school involvement may help to account for the observed disparities (e.g., Zill 1996; Lee 1993).

Using data from the Parent and Family Involvement Survey of the 1996 National Household Education Surveys Program (PFI–NHES:1996), this report looks at resident mothers' and fathers' school involvement by family type and explores the association between their involvement and whether students get mostly A's, have ever repeated a grade, or have ever been suspended or expelled. The report also discusses nonresident mothers' and fathers' school

Figure A.—Percentage of students in grades 1–12 with selected student outcomes, by family type: 1996



*Applies only to students in grades 6 through 12.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Parent and Family Involvement Survey of the 1996 National Household Education Surveys Program (PFI–NHES:1996). (Originally published as figure 7 on p. 32 of the complete report from which this article is excerpted.)

involvement and the association between their involvement and the same three student outcomes.

In this report, high involvement of parents in their children's schools is defined as participating in at least three of four school activities that most schools typically offer: attending a general school meeting; attending a regularly scheduled parent-teacher conference; attending a school or class event; and volunteering at school. Low school involvement is participating in none or only one of these activities.

Highlights

School involvement of resident parents by family type

PFI–NHES:1996 data reveal that the school involvement of biological parents is not the same across family types and that the involvement of stepparents is generally lower than that of biological parents:

- Biological mothers in stepfather families are less likely to be highly involved in their children's schools than biological mothers in two-biological-parent families. Forty-five percent of students living with a biological mother and a stepfather have a mother who is highly involved in their schools compared to 58 percent of students living with both biological parents (figure B). Once family background characteristics such as students' age, sex, and race/ethnicity, household income, mother's employment, and parent education are taken into account, biological mothers in stepfather families remain less likely to be highly involved in their children's schools than mothers in two-biological-parent families and are also less likely to be highly involved than mothers in mother-only families.
- Biological fathers in stepmother families, on the other hand, are more likely to be highly involved in their children's schools than biological fathers in two-biological-parent families. Thirty-five percent of students living with a biological father and a stepmother have a father who is highly involved in their schools compared to 28 percent of students living with both biological parents (figure B).
- Students living in father-only families are the most likely of all students to have highly involved fathers—46 percent of such students have fathers who are highly involved in their schools.
- Stepmothers are more likely than biological mothers, regardless of family type, to show low levels of involvement in their children's schools. Forty percent of students living in stepmother families have a stepmother with low involvement in their schools, while 28 percent of students in stepfather families, 27 percent in mother-only families, and 20 percent in two-biological-parent families have mothers with low involvement in their schools. The same is true of stepfathers, but stepfathers show even lower levels of involvement in their stepchildren's schools than do stepmothers. Sixty-two percent of students living with a stepfather have a stepfather who participated in none or only one of the four activities in their schools during the current school year.

Student outcomes by resident parents' school involvement

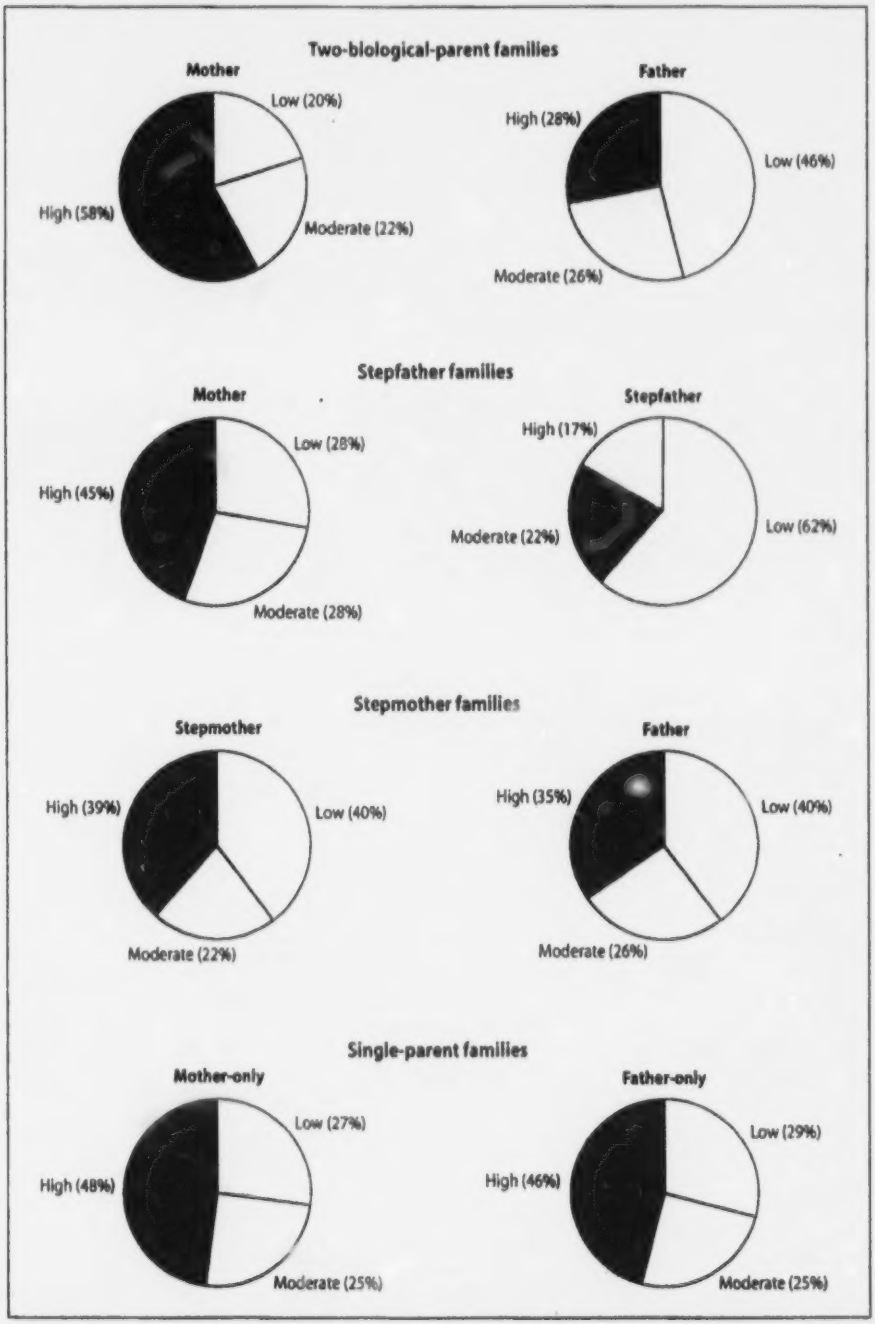
Although the level of parents' school involvement varies by whether they are biological parents or stepparents and whether they live in two-biological-parent families, single-parent families, or stepfamilies, parents' school involvement still seems to make a difference in students' school experiences:

- Fathers' involvement in school is associated with a higher likelihood of students getting mostly A's. This is true for fathers in two-biological-parent families, for stepfathers, and for fathers heading single-parent families. There appears to be no association, however, between fathers' involvement in stepmother families and the odds that students get mostly A's.
- Fathers' involvement in two-biological-parent families is associated with a lower likelihood of students ever repeating a grade. There is no evidence, though, that the involvement of stepfathers or of fathers in father-only families is related to this.
- Biological mothers' involvement, regardless of whether they are living in two-biological-parent families, stepfather families, or mother-only families, is associated with a higher likelihood of students getting mostly A's. The involvement of mothers in mother-only families is also related to lowered odds of their children ever repeating a grade.
- The school involvement of mothers is associated with a lower likelihood of 6th- through 12th-graders ever being suspended or expelled. This is true for the involvement of biological mothers and of stepmothers.

School involvement of nonresident parents

Although the school involvement of parents who live apart from their children is lower than that of resident parents, some nonresident parents who have contact with their children are involved in their children's schools:

Figure B.—Percentage distribution of students in grades 1–12, by mothers' and fathers' involvement in school and family type: 1996



NOTE: Parents were asked about their participation in four types of school activities: attending a general school meeting; attending a regularly scheduled parent-teacher conference; attending a school or class event; and volunteering at school. Low involvement is participation in none or only one of these activities; moderate involvement is participation in two activities; high involvement is participation in three or more activities. Because of rounding, percents may not add to 100.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Parent and Family Involvement Survey of the 1996 National Household Education Surveys Program (PFI–NHES:1996). (Originally published as figure 3 on p. 23 of the complete report from which this article is excerpted.)

- Thirteen percent of students in stepfather families and 19 percent in mother-only families who have had contact with their nonresident fathers in the last year have nonresident fathers who participated in at least two of the four school activities.
- Nonresident mothers are more likely than nonresident fathers to be involved in their children's schools. Twenty-seven percent of students in stepmother families and 43 percent living in father-only families who have had contact with their nonresident mothers in the last year have nonresident mothers who participated in at least two of the four school activities.

Student outcomes by nonresident parents' school involvement

Although nonresident mothers are more likely than nonresident fathers to be involved in their children's schools, the benefits of their involvement for the students are not as apparent:

- Students are more likely to get mostly A's and are less likely to have ever repeated a grade or to have ever been suspended or expelled if their nonresident fathers have some involvement in their schools. Students are more likely to get mostly A's if their nonresident mothers have participated in one activity in the last year.

Data Strengths and Limitations

PFI–NHES:1996 has several strengths for studying parents' school involvement. First, it contained a large, nationally representative sample of students in grades 1 through 12. Second, it collected information about the school involvement of both resident and nonresident mothers and fathers. PFI–NHES:1996, however, collected data at a single point in time. Thus, it cannot be used to establish causal connections between parents' involvement and student outcomes. It can only suggest such connections and leave it to studies based on longitudinal data to examine the associations more closely. Moreover, one respondent in each household reported on the school involvement of the resident and nonresident parents. In most cases, mothers were the respondents and were thus the ones reporting on the involvement of the resident and nonresident fathers.

References

Furstenberg, F.F., and Cherlin, A. (1991). *Divided Families: What Happens to Children When Parents Part.* Cambridge, MA: Harvard University Press.

Lee, S. (1993). Family Structure Effects on Student Outcomes. In B. Schneider and J.S. Coleman (Eds.), *Parents, Their Children, and Schools* (pp. 43–75). Boulder: Westview Press.

McLanahan, S., and Sandefur, G. (1994). *Growing Up With a Single Parent: What Hurts, What Helps.* Cambridge, MA: Harvard University Press.

Zill, N. (1996). Family Change and Student Achievement: What We Have Learned, What It Means for Schools. In A. Booth and J. Dunn (Eds.), *Family-School Links: How Do They Affect Educational Outcomes?* (pp. 139–174). Mahwah, NJ: Lawrence Erlbaum Associates.

Data source: Parent and Family Involvement Survey of the 1996 NCES National Household Education Surveys Program (PFI–NHES:1996).

For technical information, see the complete report:

Nord, C.W., and West, J. (2001). *Fathers' and Mothers' Involvement in Their Children's Schools by Family Type and Resident Status* (NCES 2001–032).

Author affiliations: C.W. Nord, Westat; J. West, NCES.

For questions about content, contact Jerry West (*jerry.west@ed.gov*).

To obtain the complete report (NCES 2001–032), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site (*http://nces.ed.gov*), or contact GPO (202–512–1800).

Public School Counts

Public School Student, Staff, and Graduate Counts by State: School Year 1999–2000

Ghedam Bairu

This article was originally published as a Statistics in Brief report. The universe data are from the NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education." Technical notes and definitions from the original report have been omitted.

How many students were enrolled in public elementary and secondary schools in 1999–2000? How many staff members were paid to teach, supervise, and provide support services for education? How many students graduated from high school in the previous year, 1998–99? What was the racial/ethnic background of students enrolled in public schools in 1999–2000? The information to answer these and other questions is collected in the National Center for Education Statistics (NCES) "State Nonfiscal Survey of Public Elementary/Secondary Education: School Year 1999–2000," part of the Common Core of Data (CCD).

How Many Students Were Enrolled in Public Elementary and Secondary Schools?

In school year 1999–2000, there were 46.9 million students enrolled in public elementary and secondary schools in the 50 states and the District of Columbia (table 1). Of these students, 26.0 million were in prekindergarten through grade 6, an additional 20.2 million were in grades 7 through 12, and the remaining 0.6 million were ungraded students.*

California had the most public elementary and secondary school students (6,039,000), followed by Texas (3,992,000) and New York (2,888,000). The three lowest student counts were in the District of Columbia (77,000), Wyoming (92,000), and Vermont (105,000).

How Many Teachers Were There?

About 2.9 million full-time-equivalent teachers provided instruction in public elementary and secondary schools in the 1999–2000 school year (table 2). Among this group, 1,620,000 were elementary school teachers (including prekindergarten and kindergarten teachers) and 1,031,000 were secondary school teachers. The remaining 255,000 teachers taught ungraded classes or were not assigned a specific grade.

The ratio of total students to total teachers for the nation was 16.1 students per teacher. Student/teacher ratios ranged from lows of 12.3 students per teacher in Vermont and 12.5 in Massachusetts to highs of 22.0 in Utah and 21.0 in California. The median student/teacher ratio was 15.2:1; that is, about half of the states had a student/teacher ratio equal to or greater than 15.2:1, and half had a lower ratio. Student/teacher ratio should not be interpreted as average class size since not all teachers are assigned to a class (e.g., music and reading teachers in elementary schools).

How Many Staff Supervised or Provided Support Services for Public Education?

In addition to the teachers enumerated previously, about 621,000 instructional aides directly assisted teachers in providing instruction (table 3). An additional 39,000 instructional coordinators and supervisors helped teachers through curriculum development and inservice training. Support staff for students included 96,000 guidance counselors and 54,000 librarians. This translates to about 490 students for every guidance counselor reported, and 873 students for each librarian. An additional 1,329,000 staff members provided support services for students. These services included food, health, library assistance, maintenance, transportation, security, and other services in the nation's public schools. There were 133,000 school administrators (mostly principals and assistant principals), 55,000 school district administrators, and about 384,000 school and district administrative support staff.

The relative distribution of all staff is illustrated in figure 1. Instructional staff (teachers and instructional aides, coordinators, and supervisors) made up 63.5 percent of all staff. Another 26.4 percent of all staff (librarians, counselors, psychologists, and other support staff) provided support services to schools and students. Administrators and administrative support staff made up 10.2 percent of all education staff. On the average, there were 15 teachers and 13 other staff for each administrator. All of these distributions and ratios vary greatly from state to state.

How Many Students Graduated From High School During the 1998–99 School Year?

Some 2,489,000 students received regular high school diplomas in the 50 states and the District of Columbia

*Throughout this report, national totals include only the 50 states and the District of Columbia. American Samoa, Guam, the Northern Marianas, Puerto Rico, the Virgin Islands, the Department of Defense Dependents Schools, and the Bureau of Indian Affairs schools are not included in national totals.

during the 1998–99 school year and subsequent summer (table 4). Note that some states grant only regular diplomas and high school equivalency certificates.

What Is the Racial/Ethnic Background of Students Enrolled in Public Schools?

In school year 1999–2000, racial/ethnic data were reported for 46.8 million students enrolled in public elementary and secondary schools in the 50 states and the District of Columbia. Of these students, 541,000 (1.2 percent) were American Indian/Alaska Natives; 1,880,000 (4.0 percent) were Asian/Pacific Islanders; 7,278,000 (15.6 percent) were Hispanics; 8,021,000 (17.2 percent) were Black, non-Hispanics; and 29,032,000 (62.1 percent) were White, non-Hispanics (table 5).

Table 6 presents the numbers of students receiving a regular high school diploma by racial/ethnic category for 1998–99. The U.S. totals could not be computed by race/ethnicity because data were missing for four states.

Data source: The NCES Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1995–96, 1998–99, and 1999–2000.

For technical information, see the complete report:

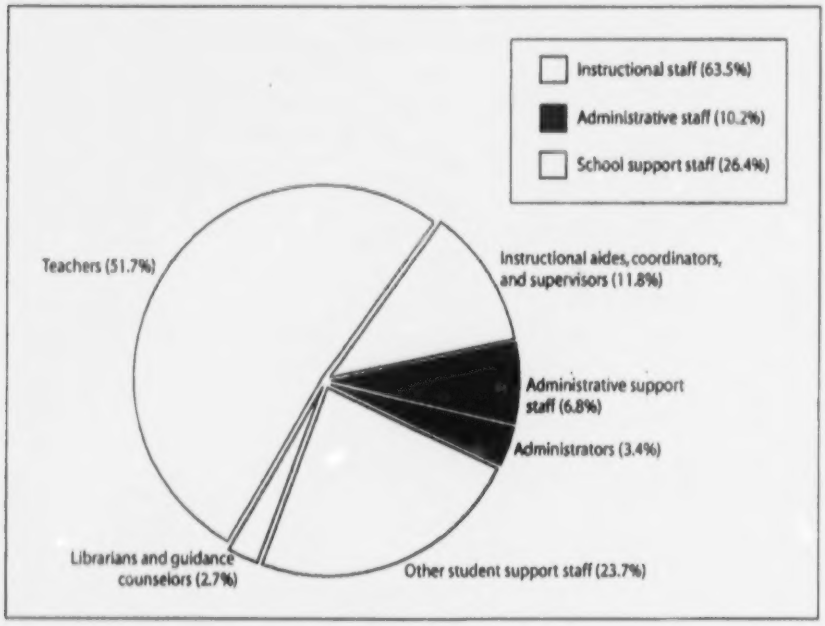
Bairu, G. (2001). *Public School Student, Staff, and Graduate Counts by State: School Year 1999–2000* (NCES 2001–326r).

Author affiliation: G. Bairu, NCES.

For questions about content, contact Ghedam Bairu *(ghedam.bairu@ed.gov).*

To obtain the complete report (NCES 2001–326r), visit the NCES Web Site *(http://nces.ed.gov)* or contact Lena McDowell *(lena.mcdowell@ed.gov).*

Figure 1.—Distribution of public elementary and secondary education staff by category: School year 1999–2000



NOTE: Detail may not add to subtotals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1999–2000.

Table 1.—Public school student membership, by grade and state: Fall 1999

State	Total student membership	Pre-kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
United States	[1]46,857,321	[1]751,173	3,397,199	3,683,877	3,655,473	3,690,418	3,686,366	3,603,664
Alabama	[1]740,732	[1]10,548	56,120	61,517	59,203	60,033	60,012	58,381
Alaska	134,391	1,344	9,583	9,999	10,656	10,706	10,926	10,555
Arizona	852,612	1,772	67,051	72,471	71,161	71,060	70,418	67,853
Arkansas	451,034	1,425	34,218	34,640	35,062	35,586	35,707	35,020
California	[1]6,038,589	[1]85,991	459,771	484,535	485,130	488,981	489,356	464,380
Colorado	708,109	12,857	50,378	55,171	55,855	55,883	56,154	55,156
Connecticut	553,993	10,518	42,193	44,825	43,974	44,930	45,307	44,712
Delaware	112,836	716	7,779	9,502	9,061	8,826	8,685	8,555
District of Columbia	77,194	4,774	6,617	7,325	6,972	6,702	6,070	5,584
Florida	2,381,396	53,783	174,953	184,482	186,014	189,501	190,744	188,093
Georgia	1,422,762	31,359	110,359	115,596	113,956	115,466	116,517	113,352
Hawaii	185,860	824	14,618	15,044	15,195	15,506	15,703	14,957
Idaho	245,331	2,158	17,024	18,400	18,437	18,618	19,125	18,719
Illinois	2,027,600	58,604	149,840	162,324	158,998	164,982	158,444	155,168
Indiana	988,702	4,997	70,438	80,167	78,764	79,409	79,139	77,709
Iowa	497,301	5,497	34,596	35,137	35,666	36,162	36,766	36,147
Kansas	472,188	2,811	30,845	34,639	34,692	35,002	35,722	35,393
Kentucky	648,180	15,609	46,373	[3]48,840	[3]48,581	[3]49,011	49,962	48,870
Louisiana	756,579	16,818	56,021	63,106	58,478	58,718	57,735	56,296
Maine	209,253	1,101	14,274	15,296	15,716	15,950	16,530	16,695
Maryland	846,582	19,285	56,942	65,006	66,746	67,048	69,077	66,687
Massachusetts	971,425	19,539	70,029	76,926	76,928	78,067	79,385	78,058
Michigan	[1]1,725,617	[1]24,573	128,060	130,947	129,924	132,547	133,215	127,190
Minnesota	854,034	9,234	58,952	60,984	61,957	62,842	64,934	64,484
Mississippi	500,716	1,549	37,906	43,318	40,396	40,462	40,151	38,182
Missouri	914,110	18,181	64,608	68,807	71,642	70,898	70,359	69,386
Montana	157,556	498	10,335	11,401	11,597	11,615	12,046	11,973
Nebraska	288,261	4,631	20,576	20,722	21,011	21,385	21,969	21,240
Nevada	325,610	2,043	25,163	27,421	27,723	27,807	27,660	26,347
New Hampshire	206,783	1,711	9,048	16,676	16,505	16,685	17,275	17,214
New Jersey	1,289,256	14,194	89,520	101,868	99,708	100,808	100,361	98,921
New Mexico	324,495	3,127	22,557	25,349	25,276	25,732	25,573	25,511
New York	2,887,776	37,613	199,271	222,383	219,688	222,190	219,305	213,701
North Carolina	1,275,925	8,515	101,816	107,314	105,677	105,888	104,658	103,195
North Dakota	112,751	647	7,560	7,999	7,895	8,040	8,135	8,343
Ohio	1,836,554	23,239	130,141	144,279	140,846	142,816	142,337	140,478
Oklahoma	627,032	20,894	43,603	51,656	47,318	47,113	47,039	46,853
Oregon	545,033	611	37,232	40,529	41,920	42,894	43,348	43,036
Pennsylvania	1,816,716	2,620	122,320	138,860	137,111	140,010	141,459	139,925
Rhode Island	156,454	1,047	11,078	12,409	12,486	12,537	12,578	12,309
South Carolina	666,780	16,330	46,274	53,410	52,860	53,616	49,323	53,859
South Dakota	131,037	1,139	9,171	9,448	9,528	9,509	9,854	9,938
Tennessee	[1]916,202	[1]13,047	70,814	75,793	74,049	73,005	71,433	69,509
Texas	3,991,783	138,235	290,806	320,102	313,688	311,133	308,232	303,098
Utah	480,255	4,281	34,963	35,396	36,285	35,953	35,921	35,134
Vermont	104,559	2,491	6,893	7,273	7,462	7,772	7,965	8,168
Virginia	1,133,994	5,293	83,938	88,996	89,819	90,494	90,781	87,933
Washington	1,003,714	6,134	68,699	75,988	77,383	77,993	79,257	77,928
West Virginia	291,811	6,176	21,216	21,800	21,736	22,117	21,928	21,729
Wisconsin	877,753	20,790	58,524	61,401	62,251	63,674	64,908	64,943
Wyoming	92,105	[3]0	6,133	6,400	6,487	6,736	6,878	6,797
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs								
Bureau of Indian Affairs	49,076	—	4,614	4,418	4,412	4,172	4,134	4,158
DOD Dependents Schools[4]	107,585	5,069	11,057	11,110	11,222	10,200	9,896	9,170
American Samoa	15,477	1,399	1,170	1,312	1,264	1,172	1,157	1,161
Guam	32,951	584	2,756	2,310	2,860	2,734	2,813	2,663
Northern Marianas	9,732	549	574	974	837	878	838	787
Puerto Rico	613,019	619	43,261	51,589	48,094	46,939	49,835	50,331
Virgin Islands	20,866	[3]0	1,368	1,546	1,656	1,740	1,669	1,565

See footnotes on second page of this table.

BEST COPY AVAILABLE

Table 1.—Public school student membership, by grade and state: Fall 1999—Continued

State	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Ungraded
United States	3,564,116	3,541,274	3,496,977	3,934,899	3,415,425	3,033,980	2,781,701	620,779
Alabama	57,703	58,969	56,201	61,150	52,304	46,015	42,576	—
Alaska	10,574	10,683	10,575	11,568	10,217	8,624	8,381	—
Arizona	67,086	66,236	65,338	68,646	60,489	51,771	47,907	3,353
Arkansas	34,397	35,267	35,403	36,657	35,081	31,839	29,316	1,416
California	451,810	439,075	431,730	482,355	444,161	401,348	347,914	82,052
Colorado	54,957	54,856	54,599	58,710	52,548	47,725	41,999	1,261
Connecticut	43,524	42,725	41,205	43,977	39,273	35,160	31,670	—
Delaware	9,014	9,179	8,957	10,150	8,618	7,304	6,490	—
District of Columbia	4,539	4,331	4,408	5,289	4,113	3,550	2,897	4,023
Florida	189,813	186,536	181,574	223,743	177,234	138,667	116,259	—
Georgia	111,603	109,134	106,688	125,388	98,019	82,974	72,351	—
Hawaii	14,441	13,733	13,175	15,629	13,526	12,592	10,818	99
Idaho	18,909	18,827	18,589	20,062	19,833	18,715	17,899	16
Illinois	153,710	148,459	149,397	164,554	145,536	126,866	126,984	3,734
Indiana	76,745	74,743	74,540	81,049	73,532	68,054	64,647	4,769
Iowa	35,819	36,307	37,966	41,394	39,159	37,829	37,124	11,732
Kansas	35,757	36,205	36,759	39,683	36,769	34,333	32,344	11,234
Kentucky	47,662	48,983	48,427	56,678	47,647	43,483	39,111	[2]8,943
Louisiana	57,910	58,997	55,710	63,869	52,925	46,144	42,344	11,508
Maine	16,946	17,003	17,493	17,036	15,565	14,237	13,022	2,389
Maryland	65,675	64,874	62,776	70,346	60,685	54,737	50,632	6,066
Massachusetts	75,902	74,783	72,545	77,733	68,577	62,424	56,440	4,089
Michigan	123,673	124,554	122,548	135,896	117,408	104,634	96,295	94,153
Minnesota	64,547	64,724	67,705	71,222	69,030	66,375	67,044	—
Mississippi	37,822	38,850	37,344	39,404	34,047	29,391	26,500	15,394
Missouri	68,862	69,354	69,850	75,791	68,523	62,280	56,213	9,356
Montana	12,192	12,607	12,975	13,532	12,877	11,985	11,571	352
Nebraska	21,242	21,786	22,452	24,861	23,064	21,692	21,630	—
Nevada	25,591	24,911	24,268	24,618	22,660	20,549	18,139	710
New Hampshire	17,130	17,249	16,793	17,520	15,297	14,317	12,734	629
New Jersey	96,113	92,672	88,757	89,234	80,654	73,096	69,647	93,703
New Mexico	24,997	25,148	25,322	29,307	25,601	22,054	18,941	—
New York	210,895	206,739	202,221	252,864	212,708	165,159	150,444	152,595
North Carolina	101,621	99,477	96,542	111,493	88,455	75,694	65,558	22
North Dakota	8,523	8,689	9,137	9,677	9,395	9,405	9,306	—
Ohio	140,117	141,628	140,706	156,492	134,736	127,991	120,885	9,863
Oklahoma	46,296	46,737	46,999	50,270	46,441	42,652	40,024	3,137
Oregon	42,023	42,041	42,721	45,619	43,201	40,083	36,827	2,948
Pennsylvania	140,916	141,885	141,714	153,464	137,769	128,787	121,152	28,724
Rhode Island	12,108	12,094	11,592	12,548	11,099	9,966	9,138	3,465
South Carolina	53,544	52,908	51,601	62,883	47,592	36,109	36,471	—
South Dakota	9,934	10,338	10,618	11,247	10,649	9,811	9,693	160
Tennessee	67,708	68,408	66,243	74,699	65,873	58,077	53,160	14,384
Texas	303,447	306,282	300,830	359,368	275,265	243,627	217,670	—
Utah	35,472	34,493	35,170	35,961	36,990	36,905	36,594	10,737
Vermont	8,035	8,040	8,177	8,748	8,356	7,795	7,014	370
Virginia	86,303	85,872	85,092	95,017	80,490	71,917	69,333	22,716
Washington	76,893	76,932	77,543	86,602	80,493	73,383	68,486	—
West Virginia	21,558	22,459	22,409	23,876	22,049	21,142	20,982	634
Wisconsin	64,967	67,103	67,878	78,961	70,934	67,343	64,076	—
Wyoming	7,091	7,389	7,715	8,059	7,958	7,370	7,049	43
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs								
Bureau of Indian Affairs	3,975	3,876	3,691	4,001	3,238	2,422	1,965	—
DOD Dependents Schools	8,434	7,261	6,423	5,671	4,640	3,871	3,355	206
American Samoa	1,086	1,131	1,047	1,059	926	825	725	43
Guam	2,543	2,446	2,442	3,457	2,234	1,717	1,392	—
Northern Marianas	763	700	694	746	567	441	344	40
Puerto Rico	47,470	49,789	45,842	43,438	43,885	38,037	34,428	19,462
Virgin Islands	1,534	2,033	1,540	2,052	1,569	1,187	1,096	311

—Data missing or not applicable.

[1]Data imputed based on current-year (fall 1999) data.

[2]Data disaggregated from reported total.

[3]Wyoming and the Virgin Islands do not have a prekindergarten program.

[4]The increase in DOD students is due to the reporting of domestic schools for the first time this year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1999–2000.

Table 2.—Public school student/teacher ratio, student membership, and teachers, by level of instruction and state: Fall 1999

State	Total student/ teacher ratio	Total student membership	Total teachers	Pre-kindergarten teachers	Kindergarten teachers	Elementary teachers	Secondary teachers	Teachers of ungraded classes
United States	16.1	[1]46,857,321	[1]2,906,554	[1]32,011	[1]143,527	[1]1,444,806	[1]1,031,245	254,965
Alabama	15.2	[1]740,732	[1]48,614	[1]551	3,442	23,913	20,708	—
Alaska	17.1	134,391	7,838	29	340	4,902	2,567	—
Arizona	19.4	852,612	43,892	201	1,745	29,543	12,403	—
Arkansas	14.4	451,034	31,362	80	1,946	11,541	13,054	4,741
California	21.0	[1]6,038,589	[1]287,344	[1]4,488	22,895	165,311	68,292	26,358
Colorado	17.4	708,109	40,772	317	1,253	19,063	20,139	—
Connecticut	13.9	553,993	39,907	165	1,522	21,735	11,487	4,998
Delaware	15.4	112,836	7,318	10	225	3,461	3,622	—
District of Columbia	16.2	77,194	[1]4,779	[1]249	[1]206	[1]2,444	[1]1,880	—
Florida	18.3	2,381,396	130,336	884	6,979	49,253	49,890	23,330
Georgia	15.7	1,422,762	90,638	1,880	5,568	46,043	37,147	—
Hawaii	17.1	185,860	10,866	[2]101	[2]457	[2]5,401	4,858	49
Idaho	18.0	245,331	13,641	98	479	6,383	6,681	—
Illinois	16.2	2,027,600	124,815	1,480	4,905	68,700	31,030	18,700
Indiana	16.8	988,702	58,864	376	2,373	27,931	25,527	2,657
Iowa	14.9	497,301	33,480	415	2,035	17,921	12,073	1,036
Kansas	14.3	472,188	32,969	232	1,160	13,628	14,414	3,535
Kentucky	15.4	648,180	41,954	695	1,435	20,684	11,868	7,272
Louisiana	15.1	756,579	50,031	492	2,673	31,303	15,107	456
Maine	12.8	209,253	16,349	[2]190	[2]854	[2]10,098	5,207	—
Maryland	16.6	846,582	50,995	666	1,809	28,283	20,237	—
Massachusetts	12.5	971,425	77,596	812	2,820	24,190	39,452	10,322
Michigan	18.0	[1]1,725,617	96,111	1,128	3,494	37,407	42,950	11,132
Minnesota	15.2	854,034	56,010	1,360	1,773	26,330	25,009	1,538
Mississippi	16.3	500,716	30,722	208	1,624	13,609	10,035	5,246
Missouri	14.3	914,110	63,890	1,198	3,186	28,087	30,661	758
Montana	15.2	157,556	10,353	[2]120	[2]539	[2]6,376	3,318	—
Nebraska	13.9	288,261	20,766	[2]209	[2]944	[2]11,157	8,311	145
Nevada	18.7	325,610	17,380	251	538	8,083	6,448	2,060
New Hampshire	14.7	206,783	14,037	99	322	9,198	4,418	—
New Jersey	13.4	1,289,256	95,883	323	3,569	50,351	27,226	14,414
New Mexico	16.4	324,495	19,797	134	828	10,479	4,680	3,676
New York	14.3	2,887,776	202,078	2,305	11,386	90,608	68,466	29,313
North Carolina	15.6	1,275,925	81,914	763	5,315	43,429	29,250	3,157
North Dakota	13.8	112,751	8,150	89	278	4,495	3,288	—
Ohio	15.8	1,836,554	[1]116,200	1,253	4,399	72,416	37,827	305
Oklahoma	15.1	627,032	41,498	556	1,626	17,086	17,684	4,546
Oregon	19.6	545,033	27,803	45	1,028	13,657	8,400	4,673
Pennsylvania	15.9	1,816,716	114,525	[2]899	[2]4,048	[2]47,857	47,289	14,432
Rhode Island	14.2	156,454	11,041	10	266	4,580	4,555	1,630
South Carolina	14.7	666,780	45,468	484	1,973	29,329	13,682	—
South Dakota	14.0	131,037	9,384	27	313	4,995	2,630	1,419
Tennessee	15.1	[1]916,202	60,702	223	3,796	40,286	15,195	1,202
Texas	14.9	3,991,783	267,935	4,338	14,546	111,389	98,495	39,167
Utah	22.0	480,255	21,832	119	876	9,532	8,909	2,396
Vermont	12.3	104,559	8,474	72	301	2,892	3,280	1,929
Virginia	14.0	1,133,994	[1]81,073	[1]276	[2]3,749	[2]44,503	32,545	—
Washington	19.9	1,003,714	50,368	37	1,991	23,467	20,424	4,449
West Virginia	13.8	291,811	21,082	184	1,104	9,049	7,016	3,729
Wisconsin	14.4	877,753	60,778	890	2,382	39,427	18,079	—
Wyoming	13.3	92,105	6,940	[3]0	212	3,001	3,532	195
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs								
Bureau of Indian Affairs	—	49,076	—	—	—	—	—	—
DOD Dependents Schools	14.5	107,585	7,415	168	417	2,619	2,149	2,062
American Samoa	19.3	15,477	801	118	35	424	209	15
Guam	18.2	32,951	1,809	27	120	807	840	15
Northern Marianas	19.9	9,732	488	—	18	270	193	7
Puerto Rico	14.8	613,019	41,349	72	1,197	20,601	15,952	3,527
Virgin Islands	13.7	20,866	1,528	[3]0	66	687	748	27

—Data missing or not applicable.

[1]Data imputed based on current-year (fall 1999) data.

[2]Data disaggregated from reported total.

[3]Wyoming and the Virgin Islands do not have a prekindergarten program.

NOTE: Teacher counts are full-time-equivalency (FTE) counts. Elementary and secondary teacher counts are not directly comparable across states due to differences in the grades included in these designations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1999–2000.

Table 3.—Number of staff employed by public elementary and secondary school systems and percentage of total staff, by category and state: Fall 1999

State	Total staff	Teachers		Instructional aides		Instructional coordinators and supervisors		Guidance counselors	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
United States	[1]5,617,397	[1]2,906,554	51.7	[1]621,385	11.1	[1]38,671	0.7	[1]95,697	1.7
Alabama	[1]88,482	[1]48,614	54.9	6,270	7.1	467	0.5	1,701	1.9
Alaska	[1]16,086	7,838	48.7	2,221	13.8	[1]132	0.8	243	1.5
Arizona	88,259	43,892	49.7	11,631	13.2	185	0.2	1,158	1.3
Arkansas	59,755	31,362	52.5	5,526	9.2	250	0.4	1,435	2.4
California	[1]532,665	[1]287,344	53.9	62,753	11.8	6,088	1.1	6,074	1.1
Colorado	79,672	40,772	51.2	8,842	11.1	749	0.9	1,211	1.5
Connecticut	79,848	39,907	50.0	10,544	13.2	395	0.5	1,176	1.5
Delaware	13,369	7,318	54.7	921	6.9	147	1.1	229	1.7
District of Columbia	[1]9,453	[1]4,779	50.6	[1]1,127	11.9	[1]76	0.8	[1]181	1.9
Florida	271,339	130,336	48.0	30,871	11.4	825	0.3	5,321	2.0
Georgia	183,674	90,638	49.3	23,568	12.8	1,182	0.6	2,865	1.6
Hawaii	17,902	10,866	60.7	1,126	6.3	375	2.1	600	3.4
Idaho	24,192	13,641	56.4	2,497	10.3	262	1.1	578	2.4
Illinois	[1]244,164	124,815	51.1	[1]29,601	12.1	2,067	0.8	2,897	1.2
Indiana	125,236	58,864	47.0	17,317	13.8	1,496	1.2	1,819	1.5
Iowa	65,957	33,480	50.8	7,944	12.0	383	0.6	1,214	1.8
Kansas	63,771	32,969	51.7	6,657	10.4	117	0.2	1,159	1.8
Kentucky	93,332	41,954	45.0	14,423	15.5	400	0.4	1,312	1.4
Louisiana	101,233	50,031	49.4	10,874	10.7	1,164	1.1	3,293	3.3
Maine	32,499	16,349	50.3	5,028	15.5	150	0.5	629	1.9
Maryland	93,620	50,995	54.5	8,594	9.2	1,674	1.8	2,022	2.2
Massachusetts	[1]136,257	77,596	56.9	16,800	12.3	1,561	1.1	2,249	1.7
Michigan	210,718	96,111	45.6	23,625	11.2	847	0.4	3,082	1.5
Minnesota	104,546	56,010	53.6	14,112	13.5	409	0.4	1,067	1.0
Mississippi	63,946	30,722	48.0	8,712	13.6	591	0.9	955	1.5
Missouri	118,104	63,890	54.1	10,131	8.6	783	0.7	2,588	2.2
Montana	[1]20,036	10,353	51.7	[1]2,300	11.5	157	0.8	426	2.1
Nebraska	39,142	20,766	53.1	4,140	10.6	276	0.7	755	1.9
Nevada	30,247	17,380	57.5	2,095	6.9	110	0.4	654	2.2
New Hampshire	27,129	14,037	51.7	4,858	17.9	[1]165	0.6	699	2.6
New Jersey	178,053	95,883	53.9	17,761	10.0	1,364	0.8	3,408	1.9
New Mexico	43,184	19,797	45.8	4,748	11.0	604	1.4	704	1.6
New York	408,977	202,078	49.4	38,068	9.3	1,735	0.4	5,843	1.4
North Carolina	158,696	81,914	51.6	26,730	16.8	814	0.5	3,265	2.1
North Dakota	15,132	8,150	53.9	1,743	11.5	94	0.6	271	1.8
Ohio	213,484	116,200	54.4	13,603	6.4	420	0.2	3,425	1.6
Oklahoma	73,831	41,498	56.2	6,166	8.4	150	0.2	1,518	2.1
Oregon	55,610	27,803	50.0	7,785	14.0	327	0.6	1,229	2.2
Pennsylvania	216,725	114,525	52.8	20,196	9.3	1,368	0.6	3,977	1.8
Rhode Island	17,927	11,041	61.6	2,177	12.1	73	0.4	315	1.8
South Carolina	[1]85,494	45,468	53.2	[1]9,734	11.4	466	0.5	1,610	1.9
South Dakota	17,437	9,384	53.8	2,088	12.0	214	1.2	310	1.8
Tennessee	112,477	60,702	54.0	11,738	10.4	[1]1,009	0.9	1,720	1.5
Texas	523,948	267,935	51.1	53,749	10.3	1,175	0.2	9,149	1.7
Utah	40,235	21,832	54.3	5,258	13.1	618	1.5	658	1.6
Vermont	17,408	8,474	48.7	3,770	21.7	280	1.6	370	2.1
Virginia	[1]145,522	[1]81,073	55.7	14,419	9.9	1,693	1.2	3,382	2.3
Washington	96,033	50,368	52.4	10,031	10.4	[1]765	0.8	1,908	2.0
West Virginia	38,709	21,082	54.5	3,008	7.8	355	0.9	655	1.7
Wisconsin	109,951	60,778	55.3	11,811	10.7	1,528	1.4	2,023	1.8
Wyoming	13,931	6,940	49.8	1,694	12.2	136	1.0	365	2.6
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs									
Bureau of Indian Affairs	—	—	—	—	—	—	—	—	—
DOD Dependents Schools	11,588	7,415	64.0	910	7.9	208	1.8	351	3.0
American Samoa	1,613	801	49.7	121	7.5	30	1.9	30	1.9
Guam	3,685	1,809	49.1	693	18.8	110	3.0	40	1.1
Northern Marianas	956	488	51.0	157	16.4	9	0.9	16	1.7
Puerto Rico	71,891	41,349	57.5	218	0.3	395	0.5	907	1.3
Virgin Islands	2,964	1,528	51.6	323	10.9	19	0.6	81	2.7

See footnotes on second page of this table.

Table 3.—Number of staff employed by public elementary and secondary school systems and percentage of total staff, by category and state: Fall 1999—Continued

State	Librarians		Student/other support staff[2]		School administrators		School district administrators		Administrative support staff	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
United States	[1]53,661	1.0	[1]1,329,253	23.7	[1]133,011	2.4	[1]55,245	1.0	[1]383,920	6.8
Alabama	1,294	1.5	22,454	25.4	3,047	3.4	1,189	1.3	3,446	3.9
Alaska	148	0.9	2,917	18.1	695	4.3	265	1.6	1,627	10.1
Arizona	785	0.9	21,142	24.0	1,997	2.3	403	0.5	7,066	8.0
Arkansas	1,018	1.7	15,955	26.7	1,613	2.7	557	0.9	2,039	3.4
California	1,379	0.3	[2]101,501	19.1	12,536	2.4	2,447	0.5	52,543	9.9
Colorado	729	0.9	18,749	23.5	1,924	2.4	898	1.1	5,798	7.3
Connecticut	729	0.9	19,296	24.2	1,959	2.5	1,197	1.5	4,645	5.8
Delaware	119	0.9	3,460	25.9	329	2.5	79	0.6	767	5.7
District of Columbia	[1]104	1.1	[1]2,220	23.5	[1]240	2.5	[1]111	1.2	[1]615	6.5
Florida	2,636	1.0	67,026	24.7	6,120	2.3	1,690	0.6	26,514	9.8
Georgia	2,035	1.1	48,307	26.3	4,484	2.4	1,615	0.9	8,979	4.9
Hawaii	289	1.6	3,108	17.4	497	2.8	132	0.7	909	5.1
Idaho	194	0.8	4,899	20.3	714	3.0	118	0.5	1,289	5.3
Illinois	1,962	0.8	[1]57,260	23.5	5,681	2.3	3,727	1.5	[1]16,154	6.6
Indiana	1,077	0.9	33,401	26.7	2,888	2.3	919	0.7	7,455	6.0
Iowa	709	1.1	15,123	22.9	1,981	3.0	1,110	1.7	4,013	6.1
Kansas	976	1.5	15,754	24.7	1,733	2.7	1,241	1.9	3,165	5.0
Kentucky	1,097	1.2	26,774	28.7	1,861	2.0	1,087	1.2	4,424	4.7
Louisiana	1,196	1.2	27,974	27.6	2,585	2.6	311	0.3	3,805	3.8
Maine	247	0.8	[2]6,963	21.4	885	2.7	504	1.6	[2]1,744	5.4
Maryland	1,087	1.2	20,667	22.1	3,031	3.2	977	1.0	4,573	4.9
Massachusetts	837	0.6	[1]23,318	17.1	2,923	2.1	1,044	0.8	9,929	7.3
Michigan	1,586	0.8	67,172	31.9	5,736	2.7	2,257	1.1	10,302	4.9
Minnesota	1,044	1.0	11,179	10.7	1,789	1.7	1,973	1.9	16,963	16.2
Mississippi	983	1.5	15,815	24.7	1,639	2.6	968	1.5	3,561	5.6
Missouri	1,566	1.3	[2]23,759	20.1	2,920	2.5	1,170	1.0	[2]11,297	9.6
Montana	359	1.8	[1]4,531	22.6	501	2.5	153	0.8	[1]1,256	6.3
Nebraska	551	1.4	9,159	23.4	960	2.5	565	1.4	[2]1,970	5.0
Nevada	292	1.0	6,754	22.3	884	2.9	224	0.7	1,854	6.1
New Hampshire	294	1.1	[2]5,057	18.6	516	1.9	410	1.5	[2]1,093	4.0
New Jersey	1,809	1.0	36,036	20.2	4,459	2.5	1,778	1.0	15,555	8.7
New Mexico	282	0.7	11,534	26.7	951	2.2	765	1.8	3,799	8.8
New York	3,091	0.8	116,839	28.6	7,363	1.8	2,783	0.7	31,177	7.6
North Carolina	2,246	1.4	37,680	23.7	4,471	2.8	1,490	0.9	86	0.1
North Dakota	192	1.3	3,315	21.9	407	2.7	464	3.1	496	3.3
Ohio	1,653	0.8	49,066	23.0	954	0.4	5,559	2.6	22,604	10.6
Oklahoma	980	1.3	15,818	21.4	2,011	2.7	723	1.0	4,967	6.7
Oregon	569	1.0	11,058	19.9	1,621	2.9	786	1.4	4,432	8.0
Pennsylvania	2,215	1.0	52,224	24.1	4,262	2.0	1,478	0.7	16,480	7.6
Rhode Island	65	0.4	2,409	13.4	386	2.2	187	1.0	1,274	7.1
South Carolina	1,130	1.3	[1]19,178	22.4	2,363	2.8	233	0.3	[1]5,312	6.2
South Dakota	175	1.0	3,566	20.5	423	2.4	358	2.1	919	5.3
Tennessee	1,462	1.3	[2]23,050	20.5	3,927	3.5	1,746	1.6	[2]7,123	6.3
Texas	4,607	0.9	[2]148,944	28.4	13,006	2.5	2,857	0.5	22,526	4.3
Utah	308	0.8	7,942	19.7	949	2.4	109	0.3	2,561	6.4
Vermont	220	1.3	2,860	16.4	407	2.3	146	0.8	881	5.1
Virginia	2,068	1.4	30,179	20.7	3,753	2.6	1,898	1.3	7,057	4.8
Washington	1,318	1.4	[2]21,451	22.3	2,662	2.8	1,117	1.2	6,413	6.7
West Virginia	400	1.0	9,545	24.7	1,079	2.8	337	0.9	2,248	5.8
Wisconsin	1,416	1.3	21,701	19.7	2,548	2.3	901	0.8	7,245	6.6
Wyoming	133	1.0	3,164	22.7	341	2.4	188	1.3	970	7.0
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs										
Bureau of Indian Affairs	—	—	—	—	—	—	—	—	—	—
DOD Dependents Schools	230	2.0	939	8.1	398	3.4	78	0.7	1,059	9.1
American Samoa	6	0.4	425	26.3	56	3.5	35	2.2	109	6.8
Guam	19	0.5	223	6.1	51	1.4	20	0.5	720	19.5
Northern Marianas	—	—	147	15.4	30	3.1	9	0.9	100	10.5
Puerto Rico	981	1.4	20,654	28.7	1,424	2.0	1,500	2.1	4,463	6.2
Virgin Islands	37	1.2	588	19.8	87	2.9	75	2.5	226	7.6

—Data missing or not applicable.

[1]Data imputed based on current-year (fall 1999) data.

[2]Data disaggregated from reported total.

[3]Student/other support services includes library support staff, student support services staff, and all other support staff.

NOTE: All staff counts are full-time-equivalency counts.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1999–2000.

Table 4.—Number of public school graduates, 12th-grade student membership, and 9th-grade student membership 3 years earlier, by state: School year 1998–99

State	Regular high school graduates 1998–99	12th-grade membership 1998–99	9th-grade membership 1995–96	High school equivalency recipients 1998–99*	Other high school completers 1998–99
United States	2,488,605	2,723,707	3,704,455	—	—
Alabama	36,244	43,957	65,299	2,807	3,610
Alaska	6,810	8,403	10,263	1,124	50
Arizona	35,728	45,813	59,346	—	357
Arkansas	26,896	29,123	37,005	6,839	—
California	299,221	334,852	437,974	18,427	—
Colorado	36,958	40,076	52,472	—	806
Connecticut	28,284	30,437	39,380	2,022	—
Delaware	6,484	6,770	10,112	324	—
District of Columbia	2,675	2,572	5,159	—	56
Florida	102,386	112,724	182,980	14,109	3,390
Georgia	59,227	71,127	117,429	—	6,240
Hawaii	9,714	10,384	16,277	—	704
Idaho	15,716	17,255	20,195	—	31
Illinois	112,556	127,506	149,289	—	—
Indiana	58,908	64,215	83,436	4,200	510
Iowa	34,378	37,166	41,385	2,039	68
Kansas	28,685	31,955	38,484	—	—
Kentucky	37,179	39,369	56,572	—	—
Louisiana	37,802	41,479	68,655	5,032	1,320
Maine	12,093	13,026	16,007	299	15
Maryland	46,214	49,321	64,468	2,579	607
Massachusetts	51,465	55,369	68,623	—	—
Michigan	94,125	94,361	129,820	735	326
Minnesota*	56,964	65,409	67,226	6,972	—
Mississippi	24,198	26,452	43,241	332	1,754
Missouri	52,531	55,794	72,575	5,221	—
Montana	10,925	11,611	13,921	1,278	—
Nebraska	20,550	21,517	23,813	—	376
Nevada	13,892	16,824	19,661	3,895	599
New Hampshire*	11,251	12,148	15,420	895	—
New Jersey	67,410	68,618	84,649	—	—
New Mexico	17,317	18,724	29,164	—	230
New York	139,426	148,315	235,320	—	4,098
North Carolina	60,081	63,476	100,505	6,394	725
North Dakota	8,388	9,040	9,927	891	—
Ohio	111,112	120,734	159,777	7,995	—
Oklahoma	36,556	38,769	49,992	7,895	—
Oregon	28,245	35,079	42,438	—	3,151
Pennsylvania	112,632	118,850	150,460	8,732	—
Rhode Island	8,179	8,727	11,922	643	14
South Carolina	31,495	36,637	60,808	2,550	2,275
South Dakota	8,757	9,521	12,176	803	—
Tennessee	40,823	49,440	74,398	—	3,774
Texas	203,393	212,503	335,819	2,334	—
Utah	31,574	35,706	37,941	2,098	195
Vermont	6,521	6,823	8,125	—	20
Virginia	63,875	67,787	86,779	—	623
Washington	58,213	65,782	78,514	5,292	—
West Virginia	19,889	21,344	26,261	1,779	19
Wisconsin	58,312	63,760	74,700	7,892	—
Wyoming	6,348	7,057	8,293	—	13
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs					
Bureau of Indian Affairs	—	2,045	—	—	—
DOD Dependents Schools	2,973	2,821	—	—	—
American Samoa	725	741	915	15	1
Guam	1,326	1,428	2,862	—	—
Northern Marianas	341	352	575	—	—
Puerto Rico	30,479	32,289	45,673	15,978	—
Virgin Islands	951	999	1,774	—	—

—Data missing or not applicable.

*High school equivalency recipients include recipients age 19 or younger, except in Minnesota where they are age 20 or younger.

NOTE: National totals for some items may be undercounts due to missing data in some states. Regular high school graduates may include students not included in 12th-grade membership.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1995–96, 1998–99, and 1999–2000.

Table 5.—Public school membership by race/ethnicity and state: School year 1999–2000

State	Students reported*	American Indian/ Alaska Native	Asian/ Pacific Islander	Hispanic	Black, non-Hispanic	White, non-Hispanic
United States	46,751,949	541,489	1,879,787	7,277,627	8,020,718	29,032,328
Alabama	729,630	5,141	5,196	7,996	265,378	445,919
Alaska	134,391	33,461	7,027	4,307	6,062	83,534
Arizona	852,612	58,148	16,571	278,736	39,152	460,005
Arkansas	451,034	2,099	3,835	13,651	105,780	325,669
California	5,927,659	50,750	658,113	2,513,453	509,637	2,195,706
Colorado	708,109	8,258	19,792	147,447	40,156	492,456
Connecticut	553,993	1,493	14,888	70,839	76,154	390,619
Delaware	112,836	249	2,438	6,135	34,500	69,514
District of Columbia	77,194	30	1,123	6,382	66,508	3,151
Florida	2,381,396	6,278	44,347	433,228	604,246	1,293,297
Georgia	1,422,762	2,182	30,060	56,666	543,627	790,227
Hawaii	185,860	748	134,102	8,543	4,389	38,078
Idaho	245,331	3,287	3,041	24,484	1,865	212,654
Illinois	2,027,600	3,112	65,963	295,896	432,686	1,229,943
Indiana	988,702	1,988	9,088	30,504	113,899	833,223
Iowa	497,301	2,490	8,435	15,836	19,092	451,448
Kansas	468,171	5,779	9,868	38,655	40,874	372,995
Kentucky	641,745	671	3,102	5,246	67,548	565,178
Louisiana	756,579	4,533	9,613	10,039	360,124	372,270
Maine	209,253	1,370	2,070	1,118	2,113	202,582
Maryland	846,582	2,845	35,596	36,954	311,529	459,658
Massachusetts	972,226	2,462	41,579	99,189	83,799	745,197
Michigan	1,713,819	17,632	29,966	55,180	335,814	1,275,227
Minnesota	855,357	17,097	41,848	25,137	53,119	718,156
Mississippi	500,716	742	3,135	3,185	255,605	238,049
Missouri	914,548	2,985	10,262	14,535	158,253	728,513
Montana	157,556	16,377	1,383	2,658	883	136,255
Nebraska	327,800	4,311	4,275	18,674	18,754	281,786
Nevada	325,610	5,867	17,433	77,849	32,762	191,699
New Hampshire	206,783	451	2,502	3,297	2,201	198,332
New Jersey	1,289,395	2,603	78,012	191,689	233,406	783,685
New Mexico	324,495	35,675	3,417	160,345	7,588	117,470
New York	2,887,776	12,770	167,401	528,141	586,037	1,593,427
North Carolina	1,275,925	18,977	22,903	46,766	399,216	788,063
North Dakota	112,751	8,566	858	1,441	1,058	100,828
Ohio	1,836,554	2,193	20,146	29,324	294,982	1,489,909
Oklahoma	627,032	102,492	8,686	33,756	67,252	414,846
Oregon	545,033	11,388	20,607	51,543	15,061	446,434
Pennsylvania	1,816,716	2,188	35,098	76,716	270,588	1,432,126
Rhode Island	156,454	828	5,055	20,482	12,043	118,046
South Carolina	666,780	1,527	6,024	10,145	281,208	367,876
South Dakota	131,037	12,890	1,190	1,476	1,464	114,017
Tennessee	912,872	1,388	10,135	13,298	222,860	665,191
Texas	3,991,783	11,265	103,499	1,578,967	576,083	1,721,969
Utah	480,255	7,499	12,684	38,273	4,259	417,540
Vermont	104,559	554	1,191	533	1,024	101,257
Virginia	1,133,994	2,930	43,836	49,294	308,621	729,313
Washington	1,003,714	27,505	71,933	96,259	51,797	756,220
West Virginia	291,811	284	1,514	1,036	12,393	276,584
Wisconsin	877,753	12,422	28,179	36,082	86,302	714,768
Wyoming	92,105	2,709	768	6,242	967	81,419
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs						
Bureau of Indian Affairs	49,076	49,076	—	—	—	—
DOD Dependents Schools	58,557	590	6,295	4,392	12,503	34,777
American Samoa	15,477	—	15,477	—	—	—
Guam	32,951	29	32,091	80	117	634
Northern Marianas	9,732	—	9,666	—	—	66
Puerto Rico	613,019	—	—	613,019	—	—
Virgin Islands	20,866	25	29	3,175	17,443	194

—Data missing or not applicable.

*Totals exclude students for whom race/ethnicity was not reported.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1999–2000.

Table 6.—Public regular high school graduates by race/ethnicity and state: School year 1998–99

State	Regular high school graduates reported*	American Indian/ Alaska Native	Asian/ Pacific Islander	Hispanic	Black, non-Hispanic	White, non-Hispanic
United States	2,398,004	—	—	—	—	—
Alabama	36,244	663	241	163	11,496	23,681
Alaska	6,810	1,210	365	184	282	4,769
Arizona	35,728	2,346	864	8,920	1,473	22,125
Arkansas	26,896	92	288	390	5,854	20,272
California	298,428	2,665	44,031	95,438	22,065	134,229
Colorado	36,958	272	1,070	4,973	1,609	29,034
Connecticut	28,284	67	790	2,262	2,920	22,245
Delaware	6,484	12	164	200	1,665	4,443
District of Columbia	2,675	3	146	189	2,255	82
Florida	102,386	242	2,856	15,013	21,651	62,624
Georgia	59,227	70	1,518	983	18,773	37,883
Hawaii	9,714	27	7,248	396	161	1,882
Idaho	15,716	119	197	865	58	14,477
Illinois	112,556	165	4,731	10,467	16,964	80,229
Indiana	58,962	89	594	1,249	5,105	51,925
Iowa	34,378	90	496	500	673	32,619
Kansas	28,685	256	599	1,252	1,736	24,842
Kentucky	37,177	252	213	90	3,020	33,602
Louisiana	37,802	176	624	519	14,503	21,980
Maine	12,093	50	127	46	77	11,793
Maryland	46,214	121	2,318	1,513	14,718	27,544
Massachusetts	51,465	57	2,268	3,326	3,830	41,984
Michigan	94,125	924	1,719	2,200	11,651	77,631
Minnesota	57,091	631	2,066	824	1,651	51,919
Mississippi	24,198	25	178	57	11,474	12,464
Missouri	52,531	104	667	587	6,687	44,486
Montana	10,925	667	81	174	39	9,964
Nebraska	20,550	139	261	694	771	18,685
Nevada	13,892	228	891	1,747	1,042	9,984
New Hampshire	—	—	—	—	—	—
New Jersey	67,513	130	4,615	7,438	9,679	45,651
New Mexico	17,317	1,631	256	7,497	358	7,575
New York	139,426	408	9,014	18,191	18,603	93,210
North Carolina	60,081	681	1,208	929	16,144	41,119
North Dakota	8,388	323	57	55	47	7,906
Ohio	111,112	112	1,390	705	10,696	98,209
Oklahoma	36,556	5,191	591	1,108	3,207	26,459
Oregon	28,245	407	1,147	1,381	526	24,784
Pennsylvania	112,632	102	2,384	2,696	11,495	95,955
Rhode Island	8,179	27	266	657	487	6,742
South Carolina	—	—	—	—	—	—
South Dakota	8,757	327	65	65	63	8,237
Tennessee	—	—	—	—	—	—
Texas	203,393	486	6,340	63,082	25,708	107,777
Utah	31,574	291	685	1,234	136	29,228
Vermont	—	—	—	—	—	—
Virginia	63,875	121	2,955	1,904	14,637	44,258
Washington	58,213	1,094	4,924	3,266	2,196	46,733
West Virginia	19,889	23	124	68	701	18,973
Wisconsin	58,312	538	1,373	1,405	2,581	52,415
Wyoming	6,348	42	33	362	112	5,799
Outlying areas, DOD Dependents Schools, and Bureau of Indian Affairs						
Bureau of Indian Affairs	—	—	—	—	—	—
DOD Dependents Schools	—	—	—	—	—	—
American Samoa	725	—	725	—	—	—
Guam	1,326	—	1,276	2	6	42
Northern Marianas	341	—	340	—	—	1
Puerto Rico	30,479	—	—	30,479	—	—
Virgin Islands	951	—	3	45	902	1

—Data missing or not applicable.

*Totals exclude students for whom race/ethnicity was not reported.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1999–2000.

Internet Access

Internet Access in U.S. Public Schools and Classrooms: 1994–2000

Anne Cattagni and Elizabeth Farris

This article was originally published as a Statistics in Brief report. The methodology section and standard error tables from the original report have been omitted. The sample survey data are from several surveys—listed at the end of this article—on advanced telecommunications and Internet access in U.S. public schools. These surveys were conducted through the NCES Fast Response Survey System (FRSS).

Since 1994, the National Center for Education Statistics (NCES) has surveyed public schools to measure what proportion of them are connected to the Internet. These annual surveys enable the U.S. Department of Education to monitor the progress made by public schools in providing access for all students and teachers to information technology in their classrooms and schools. In the fall of each academic year, a new nationally representative sample of approximately 1,000 public schools has been surveyed about Internet access and, since 1996, about the types of Internet connections used. In 2000, questions were also asked about access to the Internet at times outside of regular school hours and on "acceptable use policies."

How Much Progress Have Public Schools Made in Connecting to the Internet?

By the fall of 2000, almost all public schools in the United States had access to the Internet: 98 percent were connected. In comparison, 35 percent of public schools had access to the Internet in 1994 (table 1). Unlike in previous years, there were virtually no differences in school access to the Internet by school characteristics (e.g., poverty level[1] and metropolitan status) in 1999 or 2000.

The increase in Internet access over the years may have been aided by the allocation of funds through the Education rate (E-rate) program. The E-rate program was established in 1996 to make services, Internet access, and internal connections available to schools and libraries at discounted rates based upon the income level of the students in their community and whether their location is urban or rural.[2] As of February 28, 2001, $5.8 billion has been committed to E-rate applicants throughout the nation.[3]

Another key measure of Internet access in schools is the proportion of instructional rooms connected to the Internet.[4] Since 1994, when 3 percent of instructional rooms had computers with Internet access, public schools have made consistent progress in this area: in fall 2000, 77 percent of instructional rooms were connected to the Internet, up from 64 percent in 1999 (table 2). However, in 2000, as in previous years, there were differences in Internet access in instructional rooms by school characteristics. For example, in schools with the highest concentration of students in poverty (75 percent or more students eligible for free or reduced-price school lunch), a smaller percentage of instructional rooms were connected to the Internet (60 percent) than in schools with lower concentrations of poverty (77 to 82 percent of instructional rooms). A similar pattern occurred by minority enrollment. In schools with the highest minority enrollment (50 percent or more), a smaller percentage of instructional rooms had Internet access (64 percent) than in schools with lower minority enrollment (79 to 85 percent of instructional rooms). Despite these continuing differences, however, the percentage of instructional rooms with Internet access increased between 1999 and 2000 in these schools—from 38 to 60 percent in schools with the highest concentration of poverty, and from 43 to 64 percent in schools with the highest minority enrollment.

What Is the Ratio of Students to Instructional Computers in Public Schools?

By the fall of 2000, the ratio of students to instructional computers in public schools had decreased to 5 to 1, the ratio that "many experts consider . . . a reasonable level for the effective use of computers within the schools" (President's Committee of Advisors on Science and Technology 1997, p. 14). The ratio improved from a national average of 6 to 1 in 1999 (not shown in tables).

Similarly, the ratio of students to instructional computers *with Internet access* in public schools improved from 9 to 1 in 1999 to 7 to 1 in 2000 (table 3). However, differences by school characteristics persisted. For example, the ratio of students to instructional computers with Internet access was still greater in schools with the highest concentration of students in poverty than in schools with the lowest

[1] Throughout this report, poverty level is measured by the percentage of students eligible for free or reduced-price lunch.

[2] The poorest applicants receive the largest discounts (90 percent), and rural communities receive up to a 10 percent additional discount.

[3] The E-rate program funding commitment data were found at the Web site of the School and Libraries Division (SLD), Universal Service Administrative Company *(http://www.sl.universalservice.org/whatsnew/)*.

[4] Instructional rooms include classrooms, computer and other labs, library/media centers, and any other rooms used for instructional purposes.

Table 1.—Percent of public schools with Internet access, by school characteristics: 1994–2000

School characteristic	Public schools with Internet access						
	1994	1995	1996	1997	1998	1999	2000
All public schools	35	50	65	78	89	95	98
Instructional level[1]							
Elementary	30	46	61	75	88	94	97
Secondary	49	65	77	89	94	98	[4]100
School size							
Less than 300	30	39	57	75	87	96	96
300 to 999	35	52	66	78	89	94	98
1,000 or more	58	69	80	89	95	96	99
Metropolitan status							
City	40	47	64	74	92	93	96
Urban fringe	38	59	75	78	85	96	98
Town	29	47	61	84	90	94	98
Rural	35	48	60	79	92	96	99
Percent minority enrollment[2]							
Less than 6 percent	38	52	65	84	91	95	98
6 to 20 percent	38	58	72	87	93	97	100
21 to 49 percent	38	55	65	73	91	96	98
50 percent or more	27	39	56	63	82	92	96
Percent of students eligible for free or reduced-price school lunch[3]							
Less than 35 percent	39	60	74	86	92	95	99
35 to 49 percent	36	48	59	81	93	98	99
50 to 74 percent	31	41	53	71	88	96	97
75 percent or more	20	31	53	62	79	89	94

[1]Data for combined schools are included in the totals and in analyses by other school characteristics but are not shown separately.

[2]Percent minority enrollment was not available for some cases. In 1994, this information was missing for 100 schools. In subsequent years, the missing information ranged from 46 schools (1995) to 6 (1997).

[3]The breakouts for the percentage of students eligible for free or reduced-price school lunch have been revised for 2000 and therefore are different from the ones reported in previous Internet access reports.

[4]In this case, the estimate fell between 99.5 percent and 100 percent and therefore was rounded to 100 percent.

NOTE: All of the estimates in this report were recalculated from the raw data files using the same computational algorithms. Consequently, the estimates presented here may differ trivially (i.e., by 1 percent) from previously published results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 51, 1994; "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61, 1996; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64, 1997; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; and "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

Table 2.—Percent of instructional rooms with Internet access in public schools, by school characteristics: 1994–2000

School characteristic	Instructional rooms with Internet access						
	1994	1995	1996	1997	1998	1999	2000
All public schools	3	8	14	27	51	64	77
Instructional level[1]							
Elementary	3	8	13	24	51	62	76
Secondary	4	8	16	32	52	67	79
School size							
Less than 300	3	9	15	27	54	71	83
300 to 999	3	8	13	28	53	64	78
1,000 or more	3	4	16	25	45	58	70
Metropolitan status							
City	4	6	12	20	47	52	66
Urban fringe	4	8	16	29	50	67	78
Town	3	8	14	34	55	72	87
Rural	3	8	14	30	57	71	85
Percent minority enrollment[2]							
Less than 6 percent	4	9	18	37	57	74	85
6 to 20 percent	4	10	18	35	59	78	83
21 to 49 percent	4	9	12	22	52	64	79
50 percent or more	2	3	5	13	37	43	64
Percent of students eligible for free or reduced-price school lunch[3]							
Less than 35 percent	3	9	17	33	57	73	82
35 to 49 percent	2	6	12	33	60	69	81
50 to 74 percent	4	6	11	20	41	61	77
75 percent or more	2	3	5	14	38	38	60

[1]Data for combined schools are included in the totals and in analyses by other school characteristics but are not shown separately.

[2]Percent minority enrollment was not available for some cases. In 1994, this information was missing for 100 schools. In subsequent years, the missing information ranged from 46 schools (1995) to 6 (1997).

[3]The breakouts for the percentage of students eligible for free or reduced-price school lunch have been revised this year and therefore are different from the ones reported in previous Internet access reports.

NOTE: All of the estimates in this report were recalculated from the raw data files using the same computational algorithms. Consequently, the estimates presented here may differ trivially (i.e., by 1 percent) from previously published results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 51, 1994; "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61, 1996; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64, 1997; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; and "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

Table 3.—Ratio of students to instructional computers with Internet access in public schools, and percent of public schools allowing students to access the Internet outside of regular school hours, by school characteristics: 1998–2000

School characteristic	Students per instructional computer with Internet access			Internet available to students outside of regular school hours: 2000[1]
	1998	1999	2000	
All public schools	12	9	7	54
Instructional level[2]				
Elementary	14	11	8	46
Secondary	10	7	5	80
School size				
Less than 300	9	6	4	49
300 to 999	12	9	7	53
1,000 or more	13	10	7	79
Metropolitan status				
City	14	11	8	56
Urban fringe	13	9	7	58
Town	12	8	6	45
Rural	9	7	5	53
Minority enrollment[3]				
Less than 6 percent	10	7	6	46
6 to 20 percent	11	8	6	59
21 to 49 percent	12	9	7	54
50 percent or more	17	13	8	61
Students eligible for free or reduced-price school lunch[4]				
Less than 35 percent	11	8	6	58
35 to 49 percent	11	9	6	47
50 to 74 percent	16	10	7	52
75 percent or more	17	17	9	56

[1]Percentages are based on the 98 percent of public schools with Internet access in 2000.

[2]Data for combined schools are included in the totals and in analyses by other school characteristics but are not shown separately.

[3]Percent minority enrollment was not available for nine schools in 1998 and 2000.

[4]The breakouts for the percentage of students eligible for free or reduced-price school lunch have been revised this year and therefore are different from the ones reported in previous Internet access reports.

NOTE: All of the estimates in this report were recalculated from the raw data files using the same computational algorithms. Consequently, the estimates presented here may differ trivially (i.e., by 1 percent) from previously published results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; and "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

concentration of poverty (9 to 1 compared with 6 to 1). Nonetheless, in schools with the highest concentration of poverty, the ratio of students to computers with Internet access improved from 17 to 1 in 1999 to 9 to 1 in 2000.

How Are Public Schools Connected to the Internet?

Over the years, changes have occurred in the type of network connections used by public schools and the speed at which they are connected to the Internet. In 1996, dial-up Internet connections were used by almost three-fourths (74 percent) of public schools having Internet access (Heaviside, Riggins, and Farris 1997). By 2000, schools tended to use faster dedicated-line Internet connections, such as 56Kb, T1/DS1, fractionalized T1, T3/DS3, and fractionalized T3 lines (table 4). Seventy-seven percent of the nation's public schools that were connected to the Internet used dedicated lines, 11 percent used dial-up (not

Table 4.—Percent of public schools with Internet access using the following types of connections, by school characteristics: 1998–2000

School characteristic	Dedicated line[1]			Dial-up connection			Other types of connection[2]		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
All public schools	65	72	77	22	15	11	26	23	24
Instructional level[3]									
Elementary	62	68	74	22	16	12	29	25	25
Secondary	77	85	86	24	8	7	18	17	19
School size									
Less than 300	63	70	76	28	21	18	18	15	19
300 to 999	64	72	77	20	13	8	30	26	26
1,000 or more	79	76	82	21	11	9	24	23	24
Metropolitan status									
City	58	70	72	18	15	15	38	23	28
Urban fringe	69	71	77	21	12	7	24	27	28
Town	65	71	77	24	14	13	28	24	19
Rural	69	75	83	27	19	10	15	16	17
Percent minority enrollment[4]									
Less than 6 percent	66	72	80	24	15	12	21	21	18
6 to 20 percent	72	78	76	15	12	9	24	22	26
21 to 49 percent	67	69	79	21	15	7	28	23	22
50 percent or more	56	68	74	28	18	15	36	24	28
Percent of students eligible for free or reduced-price school lunch[5]									
Less than 35 percent	67	75	78	18	10	10	28	23	23
35 to 49 percent	72	74	75	20	13	9	27	24	26
50 to 74 percent	66	69	82	26	23	11	20	18	20
75 percent or more	53	62	71	33	22	15	28	25	28

[1]Includes 56Kb, T1/DS1, fractionalized T1, T3/DS3, and fractionalized T3 lines.

[2]Includes ISDN, wireless connections, and cable modems (generally continuous connections, similar to dedicated lines).

[3]Data for combined schools are included in the totals and in analyses by other school characteristics but are not shown separately.

[4]Percent minority enrollment was not available for nine schools in 1998 and 2000.

[5]The breakouts for the percentage of students eligible for free or reduced-price school lunch have been revised this year and therefore are different from the ones reported in previous Internet access reports.

NOTE: Percentages are based on the percent of public schools having Internet access: 89 percent in 1998, 95 percent in 1999, and 98 percent in 2000. Percentages add to more than 100 because schools may use more than one type of connection.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; and "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

continuous) connections, and 24 percent of schools used other (continuous) connection types, including ISDN, wireless connections, and cable modems.[5] There were differences by instructional level; secondary schools (86 percent) were more likely to use dedicated lines than elementary schools (74 percent).

[5]Percentages add to more than 100 because schools may use more than one type of connection.

To What Extent Are Public Schools Making the Internet Available to Students Outside of Regular School Hours in 2000?

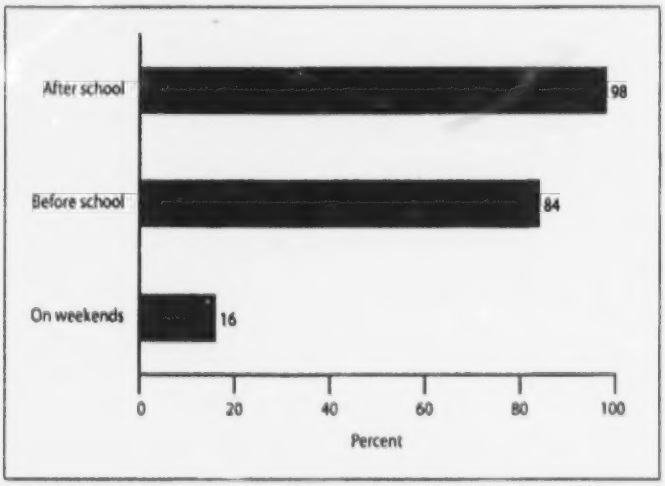
Making the Internet accessible outside of regular school hours allows students who would not otherwise have access to the Internet to use this resource for school-related activities like homework. In 2000, 54 percent of public schools with access to the Internet reported that computers with access to the Internet were available to students

outside of regular school hours (table 3). Secondary schools were more likely to make the Internet available to students outside of regular school hours than elementary schools (80 percent compared to 46 percent). Similarly, large schools (1,000 or more students) were more likely to make the Internet accessible to students outside of regular school hours than medium-sized and small schools (79 percent compared with 53 and 49 percent, respectively). In addition, schools with the highest minority enrollment reported Internet availability outside of regular school hours more frequently than schools with the lowest minority enrollment (61 percent compared with 46 percent). Of the 54 percent of schools making the Internet available to students outside of regular school hours, 98 percent made it available after school, 84 percent before school, and 16 percent on weekends (figure 1).

How Are Public Schools Preventing Students From Accessing Inappropriate Material on the Internet in 2000?

Given the diversity of the information carried on the Internet, student access to inappropriate material is a major concern of many parents and teachers. In 2000, almost all public schools with Internet access (98 percent) had "acceptable use policies" (AUPs) and used various technologies or procedures, such as blocking or filtering software, an intranet system, honor codes for students, or teacher/staff monitoring, to control student access to inappropriate material on the Internet (not shown in tables). Across all types of schools, between 95 and 100 percent had AUPs. Of those schools with AUPs, 94 percent reported having student access to the Internet monitored by teachers or other staff members (figure 2). Three-fourths (74 percent) used blocking or filtering software, 64 percent had honor codes, and 28 percent used their intranet. As these numbers suggest, most of the schools (91 percent) used more than one procedure or technology as part of their policy (calculated from table 5). Fifteen percent of public schools used all of the procedures and technologies listed above; 29 percent used blocking/filtering software, teacher/staff monitoring, and honor codes; and 19 percent used blocking/filtering software and teacher/staff monitoring (table 5). In addition, 95 percent of public schools having AUPs used at least one of these technologies or procedures on *all* Internet-connected computers used by students (not shown in tables).

Figure 1.—Percent of public schools allowing students to access the Internet outside of regular school hours giving students access after school, before school, and on weekends: 2000

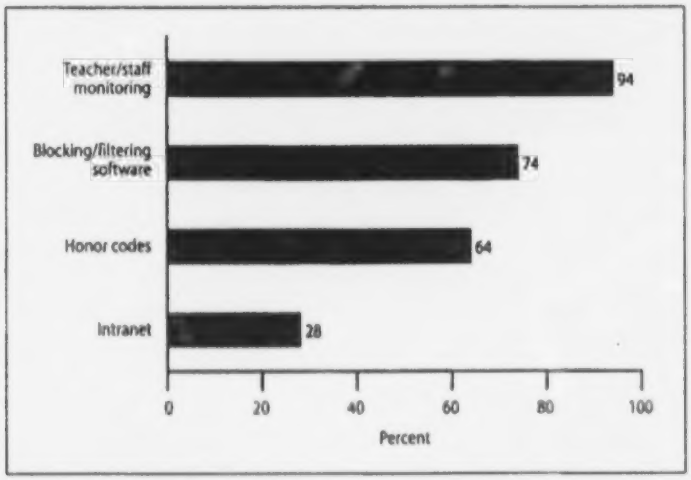


NOTE: Percentages are based on 53 percent of all public schools (98 percent with Internet access multiplied by 54 percent allowing students to access the Internet at times other than regular school hours). Percentages add to more than 100 because schools may have more than one time of availability.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

61

Figure 2.—Percent of public schools with acceptable use policies (AUPs) using the following technologies or procedures: 2000



NOTE: Percentages are based on 96 percent of all public schools (98 percent with Internet access multiplied by 98 percent having AUPs). Percentages add to more than 100 because schools may use more than one type of AUP.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

Table 5.—Percent of public schools with acceptable use policies (AUPs) using various combinations of procedures and/or technologies to prevent student access to inappropriate material on the Internet: 2000

Combination of four procedures and/or technologies	Percent
Use all four procedures/technologies (blocking/filtering software, Intranet, teacher/staff monitoring, and honor codes)	15
Use three procedures/technologies	40
Blocking/filtering software, teacher/staff monitoring, and honor codes	29
Blocking/filtering software, teacher/staff monitoring, and Intranet	7
Others	4
Use two procedures/technologies	36
Blocking/filtering software and teacher/staff monitoring	19
Teacher/staff monitoring and honor codes	15
Others	2
Use one procedure or technology only	9
Teacher/staff monitoring	5
Blocking/filtering software	3
Others	1

NOTE: Percentages are based on 96 percent of all public schools (98 percent with Internet access multiplied by 98 percent having AUPs).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System, "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

Related Information

This survey is part of an overall NCES effort to track the availability and use of technology in schools. The references below contain the source information about publications for the series of public school surveys on advanced telecommunications and Internet access. In addition to collecting information from public schools, NCES surveyed private schools about advanced telecommunications in 1995 and 1999. NCES has also collected information on teachers' use of technology. A report on this topic was released in summer 2000.

References and Related Reports

Bare, J., and Meek, A. (1998). *Internet Access in Public Schools* (NCES 98–031). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Heaviside, S., and Farris, E. (1997). *Advanced Telecommunications in U.S. Private Schools, K–12, Fall 1995* (NCES 97–394). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Heaviside, S., Farris, E., and Malitz, G. (1995). *Advanced Telecommunications in U.S. Public Schools, K–12* (NCES 95–731). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Heaviside, S., Farris, E., and Malitz, G. (1996). *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools, 1995* (NCES 96–854). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Heaviside S., Riggins, T., and Farris, E. (1997). *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools, Fall 1996* (NCES 97–944). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Heaviside, S., Rowand, C., Hurst, D., and McArthur, E. (2000). *What Are the Barriers to the Use of Advanced Telecommunications for Students With Disabilities in Public Schools?* (NCES 2000–042). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Levin, D., Hurst, D., and Burns, S. (2000). *Computer and Internet Access in U.S. Private Schools and Classrooms: 1995 and 1998* (NCES 2000–044). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

President's Committee of Advisors on Science and Technology, Panel on Educational Technology. (1997). *Report to the President on the Use of Technology to Strengthen K–12 Education in the United States*. Available: *http://www.ostp.gov/PCAST/K-12ed.html*

Riley, R., Holleman, F., and Roberts, L. (2000). *eLearning: Putting a World-Class Education at the Fingertips of All Children*. U.S. Department of Education, Office of Educational Technology. Available: *http://www.ed.gov/Technology/elearning/e-learning.pdf*

Rowand, C. (1999). *Internet Access in Public Schools and Classrooms: 1994–98* (NCES 1999–017). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Smerdon, B., Cronen, S., Lanahan, L., Anderson, J., Iannotti, N., and Angeles, J. (2000). *Teachers' Tools for the 21st Century: A Report on Teachers' Use of Technology* (NCES 2000–102). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Williams, C. (2000). *Internet Access in Public Schools and Classrooms: 1994–99* (NCES 2000–086). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Data sources: The following surveys, all conducted through the NCES Fast Response Survey System: "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 51, 1994; "Survey on Advanced Telecommunications in U.S. Public Schools, K–12," FRSS 57, 1995; "Advanced Telecommunications in U.S. Public Schools, Fall 1996," FRSS 61, 1996; "Internet Access in U.S. Public Schools, Fall 1997," FRSS 64, 1997; "Internet Access in U.S. Public Schools, Fall 1998," FRSS 69, 1998; "Internet Access in U.S. Public Schools, Fall 1999," FRSS 75, 1999; and "Internet Access in U.S. Public Schools, Fall 2000," FRSS 79, 2000.

For technical information, see the complete report:

Cattagni, A., and Farris, E. (2001). *Internet Access in U.S. Public Schools and Classrooms: 1994–2000* (NCES 2001–071).

Author affiliations: A. Cattagni and E. Farris, Westat.

For questions about content, contact Bernie Greene *(bernard.greene@ed.gov)*.

To obtain the complete report (NCES 2001–071), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov)*.

Staff Data Handbook

Staff Data Handbook for Elementary, Secondary, and Early Childhood Education: 2001 Edition

Oona Cheung and Beth Aronstamm Young

This article was originally published as the Executive Summary of the Handbook of the same name.

Introduction

To make appropriate, cost-effective, and timely decisions about staff, educators must have accurate and complete information. Recognizing this need, most education systems have moved from paper documents in filing cabinets to automated staff accounting systems. These systems provide administrators and others concerned with effective program design with day-to-day access to information about staffs' background, qualifications, and assignments. They also provide the flexibility necessary to supply aggregate data to school boards, state and federal governments, and other interested parties and to conduct program evaluations. To be effective, however, these systems must record data accurately and comparably for all staff members, in all places, and at all times.

The *Staff Data Handbook for Elementary, Secondary, and Early Childhood Education* was developed by the U.S. Department of Education's National Center for Education Statistics (NCES) to provide guidance concerning the consistent maintenance of staff information. This handbook is useful to public and private education agencies, schools, early childhood centers, and other institutions, as well as to researchers involved in the collection of staff data. In addition, the Handbook may be useful to elected officials and members of the public interested in staff information. This handbook is *not*, however, a data collection instrument, nor does it reflect any type of federal data maintenance requirements. It is presented as a tool to help the public and American school systems make information about staff more useful and effective in meeting student needs.

This handbook was developed with the assistance of local, state, national, and most federal education representatives and researchers. The definitions included are generally consistent with current state and local practice, national standards movements, and most federal reporting requirements. The terms, definitions, and procedures represent a consensus of what is considered "best practice" in data collection; they should be interpreted and applied according to local, state, and federal reporting requirements and restrictions for confidentiality and security.

Standard Data Elements and Definitions

The data elements included in this handbook represent the types of staff information that *could* be collected and maintained in permanent or temporary staff records, whether in paper format or in an automated database. An attempt has been made to be as complete as possible, with the understanding that many data elements will not be needed for all staff members.

Data elements are presented in seven areas:

- personal information;
- educational experiences;
- qualification information;
- current employment;
- assignments;
- evaluation and career development; and
- separation from employment.

Each data element is defined, and lists of options and definitions are included where applicable. Data elements are also associated with the entities to which they pertain, such as persons, places, or things, about which data may be stored.

Recommendations for Building an Automated Staff Accounting System

This handbook provides guidelines for designing automated staff accounting systems for use by schools, school districts, state education agencies, and other institutions. Included is a discussion of the benefits of a well-designed staff accounting system, as well as the potential uses of such a system at the school, district, and state levels. Also included is a description of a step-by-step process for designing an effective staff accounting system.

Focus on State and Local Staff Record Applications

Communication among various levels of the education system is increasingly important. A well-designed automated staff accounting system allows for the easy and efficient movement of staff records among levels of the

education system. For instance, information on teacher licensure could be transmitted electronically to school districts seeking to hire an educator. Similarly, when a school employee retires, data could be efficiently transferred to the retirement system. This revision of the Handbook adds detail about automating and exchanging electronic records, with suggestions for formatting data elements and arranging them in a logical and flexible design.

References to Other Related Documents

This handbook, in conjunction with other NCES documents, provides state and local education officials with important tools for designing and implementing automated information systems. Recent NCES documents dealing with the confidentiality of staff records, decisionmaking about the installation of technology, and ensuring security of technology are important adjuncts to this handbook. The Handbook lists and discusses these related documents.

Organization of the Handbook

Chapter 1 provides the user with an introduction to the Handbook and its uses.

Chapter 2 contains a more detailed description of the Handbook's contents and uses. Listings of other related documents that could be useful are also included. In anticipation of future updates to the Handbook, a description of the process for implementing suggested changes has been included.

Chapter 3, "Building a Staff Accounting System," discusses the collection, use, and dissemination of data and information about individual staff members and how staff accounting systems can benefit the staff and the school system.

Chapter 4, "Data Elements and Definitions," contains data elements and definitions that describe staff members, assignments, educational background, activities in which they participate, and other information that could be maintained about an individual staff member. Each *entity* listed refers to something, or someone, about which data should be maintained. Each *data element* refers to a particular aspect of staff data for which some need was perceived within the school system. A definition is included for each entity and data element.

Chapter 5 describes possible applications of the Handbook. A table is provided that includes information about data element type and field length, attributes that could be useful to readers designing a data collection system, a survey, or a reporting format.

Following the glossary and index are 14 appendices that contain important supplemental information. The appendices include comprehensive lists of coding options for some of the data elements in chapter 4. Included are code designations for states and outlying areas, countries, languages, occupational groupings, medical conditions and treatments, and education programs. Also included are a crosswalk of data elements in both the *Staff Data Handbook* and the *Student Data Handbook* (Cheung and Young 2000) and the names of those who contributed to the development of this revision of the *Staff Data Handbook*.

Reference

Cheung, O., and Young, B.A. (2000). *Student Data Handbook for Elementary, Secondary, and Early Childhood Education: 2000 Edition* (NCES 2000–343). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Author affiliations: O. Cheung, Council of Chief State School Officers (CCSSO); B.A. Young, NCES.

For questions about content, contact Beth Aronstamm Young *(beth.young@ed.gov).*

To obtain the complete report (NCES 2001–305), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

Credits and Attainment: Returns to Postsecondary Education Ten Years After High School
Brian Zucker and Royal Dawson 65

Attrition of New Teachers Among Recent College Graduates: Comparing Occupational Stability Among 1992–93 Graduates Who Taught and Those Who Worked in Other Occupations
Robin R. Henke and Lisa Zahn 69

Background Characteristics, Work Activities, and Compensation of Faculty and Instructional Staff in Postsecondary Institutions: Fall 1998
Linda J. Zimbler 77

Credits and Attainment

Credits and Attainment: Returns to Postsecondary Education Ten Years After High School

Brian Zucker and Royal Dawson

This article was originally published as the Executive Summary of the Statistical Analysis Report of the same name. The sample survey data are from the NCES High School and Beyond Longitudinal Study (HS&B).

Introduction

While the advantages of earning a postsecondary education degree—particularly a bachelor's degree—are well documented, the literature is less conclusive about the economic and social impact of postsecondary education credits apart from degree completion. Different conclusions about the economic returns to a college education reflect different populations and time periods of analysis, with variations in how a student's background, education, and labor force experience were defined and measured.

Although there is in general a pronounced earnings differential for those with and without a bachelor's degree, not all non-college-bound students or students with some college but no credential fare poorly in the labor market or fail to acquire highly marketable skills.

Clarifying the economic outcomes for those with a high school education but no college, and those with some college but no degree, and understanding the relationship of factors that potentially affect individual earnings may help to clarify the alternatives and risks of either not pursuing a postsecondary education or completing some college credits in lieu of a degree. In turn, this information can help guide the strategies and investment decisions of students, educators, and employers.

This analysis examines 16 student characteristics and their association with earnings 10 years after high school. To facilitate the analysis, these characteristics are organized around four broad aspects of experience and background (referred to as the earnings framework) as shown in figure 1.

66 BEST COPY AVAILABLE

Figure 1.—Variables included in earnings framework

Demographic and family background
- Race/ethnicity
- Gender
- Family income in 1980
- Parent educational attainment in 1980

High school preparation
- Academic preparation
- Extracurricular involvement

Postsecondary experience
- College aspirations
- Initial type of institution attended
- College GPA
- Vocational versus liberal arts focus
- Depth versus breadth of curriculum
- Timing of entry
- Undergraduate major
- Educational attainment

Early work experience
- Employment while in high school
- Early work experience (1983–86)

The analysis is based on data from the High School and Beyond Longitudinal Study of 1980 Sophomores, including the "Fourth Follow-up" (HS&B-So:80/92) and the "Postsecondary Education Transcript Study" (HS&B-So:PETS). While the analysis examines the earnings of young adults at all levels of attainment, students with some college credits but no degree are the focal point. To put the experiences of these students into perspective, this group is compared throughout with those 1980 sophomores whose formal education ended with high school graduation in 1982, as well as with those who completed a vocational certificate, associate's or bachelor's degree, or higher degree.

Attainment and Background

As of 1992, just under 63 percent of all students from the sophomore class of 1980 had at least some college, and 42 percent (about two-thirds of those who attended college) had completed a program leading to a degree or certificate. In other words, about one in five students (22 percent) from this cohort attended college but did not complete a program leading to a degree or certificate.

Students with some college were almost evenly divided into those who completed 15 or fewer college credits, those who completed 16 to 40 credits, and those with more than 40 credits. Students with some college who fall into these three categories of attainment varied not only with respect to credit production, but across a range of other characteristics as well. In broad terms, as discussed in this report, students with some college, particularly those who completed more than 40 credits, were most similar to students with a bachelor's degree, while students who completed 16 to 40 credits were closer in profile to those with an associate's degree. In contrast, students who completed 15 or fewer credits resembled those with no college in some instances and those with an associate's degree or vocational certificate in others.

Student attainment was closely related to several aspects of social-demographic background, including race, gender, family income, and parent attainment. Females, for example, were more likely than males to attend college, while Black, Hispanic, and American Indian students were less likely than either White or Asian/Pacific Islander students to attend college or complete a bachelor's degree. In addition, students with a 1980 family income of $40,000 and above were more than three times as likely to have completed a bachelor's degree and more than four times as

likely to have completed a graduate degree as students with a family income under $15,000. Similarly, students with a bachelor's degree were more than twice as likely to have come from families where one or both parents completed a bachelor's degree, while those with only a high school diploma were more than six times as likely to have come from a family where neither parent attended college.

Attainment and Earnings

After controlling for academic and labor force experiences and background characteristics, a bachelor's or associate's degree was shown to contribute significantly to earnings, and the results were generally consistent with what others have estimated.[1] Based on the ratio of "adjusted mean" earnings—which take into account the covariance of other confounding factors—students with a bachelor's degree, on average, earned about 23 percent more than students with no college. For students with an associate's degree, there was about a 9 percent earnings differential compared with high school graduates. For students with some college, there appeared to be about a 6 to 9 percent mean earnings differential over those with no college (depending on the number of credits completed), but there was not enough statistical evidence to draw this conclusion. In other words, after controlling for multiple aspects of student experience and background, the economic returns of some college credits apart from degree completion were negligible—irrespective of the number of credits completed. The lack of a return for students with some college (but no degree), who in particular completed more than 40 credits, suggests that credit production in the absence of a meaningful integration of courses contributes little to individual earnings and/or that there are considerable economic gains that can be attributed to the degree credential itself.

Postsecondary Education Experience

While students with some college, on average, showed the same level of earnings as students with no college, there were numerous instances in which specific aspects of a postsecondary education experience were associated with higher earnings. These include students whose coursework was vocationally (as opposed to general education) focused; students with undergraduate majors in computer science, health technology, business, and engineering; students who achieved a balance of breadth versus depth of study in their curriculum; and students who attained a cumulative GPA of 3.0 or higher. Differences in earnings were also observed by type of institution first attended, with students who attended private not-for-profit 4-year institutions having higher earnings than those who attended public 2-year institutions. In contrast, there was no difference in earnings for students who attended public 4-year institutions compared with those who attended public 2-year institutions, controlling for other factors.

In broader terms, the earnings gain associated with these various characteristics suggests that postsecondary education curriculum and academic performance, along with other aspects of the postsecondary education experience, may figure prominently in the economic returns to a postsecondary education.

Early Work Experience

Apart from attainment and selected aspects of the college experience, the findings from this analysis suggest that labor force experience constitutes an important component of the earnings equation. Based on the findings of the multiple regression analysis, workforce experience during high school and during the 4 years immediately following high school can contribute significantly to individual earnings. While this association potentially reflects differences in motivation as well as experience, the findings nonetheless suggest that an enriching early work experience may provide students with an important channel for such motivation, and in effect mitigate some of the economic disadvantages of not having a college degree.

As with questions concerning college access, however, higher rates of unemployment and lower levels of work experience during and in the first 4 years after high school suggest that some students, such as Black and American Indian students (who are less likely to complete college), may have less access to enriching early employment opportunities as well.

In broader terms, the associations between educational attainment, early employment, and earnings suggest that the greatest gains in individual earnings are most likely to accrue through a combination of work and postsecondary education. And, while the responsibilities of employment may compete with educational activities, work experiences in some instances can be mutually facilitating and mutually reinforcing.

Background and Social Mobility

The last set of observations concerns the influences of socioeconomic background and economic mobility. In combination, several elements of students' background,

[1] See, for example, Kane and Rouse (1993).

including family income and high school academic preparation, were associated with earnings both directly and indirectly through an association with higher attainment.

While the findings from this analysis reaffirm the central role of education (at both the high school and postsecondary levels) as a vehicle of social mobility, in actuality, for the sophomore class of 1980, the earnings distribution of students 10 years after high school remains closely associated with socioeconomic status during high school. In other words, while education is positively related to individual earnings—irrespective of socioeconomic background—the direct and indirect effects of family income still constitute a dominant factor in the formation of an individual's earning capacity.

Nowhere is this impact more clearly illustrated than with the racial/ethnic background of students. After controlling for all other characteristics in the earnings framework, there was no difference in student earnings by race/ethnicity. While at one level this finding suggests that something of an economic parity with respect to race/ethnicity exists in the labor market, it is crucial to recognize the extent to which this balance is offset by the overall disparity in attainment for Blacks, Hispanics, and American Indians compared with Whites or Asians/Pacific Islanders.[2]

While observed differences in earnings by race/ethnicity are more directly attributable to differences in attainment than to other factors, the same cannot be said with respect to gender. Indeed, for the sophomore class of 1980, females were more likely to attend college than males and had equivalent bachelor's and advanced degree rates of attainment. At the same time, after controlling for all factors in the model, there remains a pronounced earnings differential by gender, with an adjusted mean earnings for females that is approximately 18 percent less than for males.

While this disparity may in part be accounted for by differences in occupational employment—which was not considered in the earnings framework—this finding nonetheless brings with it a number of implications, including questions about comparative differences in a college education's economic return on investment and in the level of college debt that students may ultimately be able to assume. At the same time, the positive association between attainment and earnings remains, regardless of gender. Therefore, while economic parity, by definition, cannot be achieved through offsets in attainment for those who are otherwise disadvantaged, attainment nonetheless serves to mitigate those disparities.

[2]For the sophomore class of 1980, Blacks, Hispanics, and American Indians were less than half as likely as White students and less than one-third as likely as Asians/Pacific Islanders to attain a bachelor's degree.

Reference

Kane, T.J., and Rouse, C.E. (1993). *Labor Market Returns to Two- and Four-Year College: Is a Credit Really a Credit and Do Degrees Matter?* Cambridge, MA, and Princeton, NJ: Harvard University and Princeton University.

Data source: The NCES High School and Beyond Longitudinal Study of 1980 Sophomores, "Fourth Follow-up" (HS&B-So:80/92) and "Postsecondary Education Transcript Study" (HS&B-So:PETS).

For technical information, see the complete report:

Zucker, B., and Dawson, R. (2001). *Credits and Attainment: Returns to Postsecondary Education Ten Years After High School* (NCES 2001–168).

Author affiliations: B. Zucker and R. Dawson, Human Capital Research Corporation.

For questions about content, contact Aurora D'Amico *(aurora.d'amico@ed.gov).*

To obtain the complete report (NCES 2001–168), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

Teacher Attrition

Attrition of New Teachers Among Recent College Graduates: Comparing Occupational Stability Among 1992–93 Graduates Who Taught and Those Who Worked in Other Occupations

Robin R. Henke and Lisa Zahn

This article was originally published as the Executive Summary of the Statistical Analysis Report of the same name. The sample survey data are from the NCES Baccalaureate and Beyond Longitudinal Study (B&B).

News reports frequently discuss the shortage of elementary/secondary teachers in the United States. Increasing enrollments, particularly in the elementary grades; increasing rates of retirement among teachers; and the efforts of states and localities to reduce class size may well have contributed to many of these shortages (Johnson 2001). In recent years, enrollments in public and private elementary and secondary schools have grown considerably, and most expect that they will continue to climb through 2005, after which they are expected to drop slightly through 2010 (Gerald and Hussar 2000). Nevertheless, shortages may well continue, since the proportion of teachers who retire each year is expected to rise (Goodnough 2000). As experienced baby-boomer teachers retire, they are likely to be replaced by young and inexperienced teachers, whose attrition rates are higher than those of mid-career teachers (Archer 1999; Grissmer and Kirby 1997).[1]

Many researchers and policymakers attribute the higher attrition rate among new teachers to their working conditions (e.g., Baker and Smith 1997). Therefore, to encourage new teachers to remain in the profession, many states and localities have launched programs to support them (Archer 1999; Cooperman 2000). Policy analysts have also recommended that schools and districts professionalize teaching to improve retention (Kanstoroom and Finn 1999; Holmes Group 1986; National Commission on Teaching and America's Future 1996, 1997).

Such policy initiatives may help new teachers become better teachers more quickly and may increase occupational stability among all teachers; however, they do not address other possible reasons for attrition among new teachers. Although such attrition has received considerable research attention over the years (Darling-Hammond 1984; Murnane et al. 1991), whether new teachers are more likely than college graduates beginning careers in other professions to change occupations has not yet been addressed. High attrition from initial occupations may be endemic to new college graduates' entry into the labor market, regardless of occupation, as new graduates learn about the workplace and about their strengths and weaknesses as well as what they like and dislike about their jobs. In addition, interest or aptitude for a field in an academic setting may not always translate into satisfaction in a related occupation. Particularly among graduates who majored in academic, rather than applied, fields of study, information about the kinds of work available to them and their affinity for it may be limited. If new college graduates change occupations at similar rates regardless of their early occupations, reducing attrition among new teachers may be as much a matter of helping college students and new graduates choose, plan, and prepare for their careers as supporting new teachers and professionalizing teaching.

This research examines the occupational stability of bachelor's degree recipients during the first 4 years after receiving the bachelor's degree. The analyses address the following question: Were 1992–93 graduates who were teaching in 1994 more or less likely than those in other occupations to leave the workforce or work in a different occupation in 1997?

Data and Methodology

The 1993 Baccalaureate and Beyond Longitudinal Study (B&B:93/97) provided the data for these analyses. The National Center for Education Statistics (NCES) first surveyed a nationally representative sample of about 11,200 students who received bachelor's degrees between July 1, 1992, and June 30, 1993, in the spring of 1993, and then again in 1994 and 1997. These analyses are based on the 83 percent of the original sample, about 9,300 graduates, who participated in all three B&B survey administrations.

The B&B:93/97 data provide an important opportunity to compare the behavior of a significant proportion of new teachers to that of their nonteaching peers. However, results from these analyses cannot be generalized to all new teachers

[1] Schools and Staffing Survey (SASS) data from 1994–95 indicate that about 8 percent of teachers who had taught less than 4 years left the profession between 1993–94 and 1994–95, as did about 7 percent of teachers with 4 to 9 years of experience (Whitener et al. 1997). In contrast, between 4 and 5 percent of teachers with 10 to 24 years of experience left between 1993–94 and 1994–95. Other SASS estimates indicate that approximately 30 percent of new teachers leave the profession within the first 5 years of entry (Ingersoll as cited in Archer 1999).

70

in 1994 or 1997 because many new teachers do not begin teaching immediately after completing a bachelor's degree.

These analyses are based largely on composite variables developed from graduates' reports of what they were doing during both April 1994 and 1997. Composites were created to summarize graduates' major activities (e.g., working, studying, or both) in 1994 and 1997, whether their major activities differed between April 1994 and April 1997, and whether their occupations differed between the 2 years.

Results

Teaching and teacher attrition among 1992–93 bachelor's degree recipients

In April 1994, 80 percent of 1992–93 graduates were primarily working,[2] and another 3 percent combined study and work equally. The remaining graduates were primarily studying (11 percent), not enrolled and unemployed (3 percent), or not enrolled and out of the labor force (3 percent) (figure A). Kindergarten through 12th-grade teachers made up 10 percent of graduates who were working full time in April 1994 (figure B).

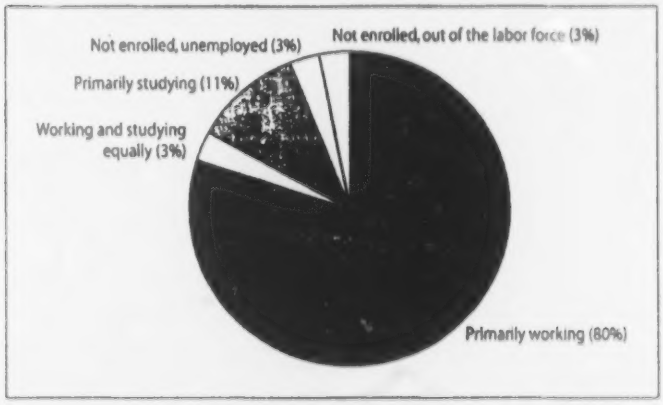
[2]Graduates who were primarily working were working for pay full time or part time, but they were working more than they were studying. This category includes graduates who were working full time and either not enrolled or enrolled part time and graduates who were working part time and not enrolled.

Whether they were employed full time or part time in April 1994, most graduates who worked as K–12 teachers in April 1994 were also employed in April 1997. Among those employed full time as K–12 teachers in April 1994, 88 percent were primarily working, 3 percent were working and studying equal amounts, and 3 percent were primarily studying in April 1997 (figure C). Among those employed part time as K–12 teachers in April 1994, 85 percent were primarily working, 5 percent were working and studying equal amounts, and 3 percent were primarily studying in April 1997.

Among those who were employed as full-time K–12 teachers in April 1994 and who also worked in April 1997, 82 percent were still teaching in April 1997 (figure D). Furthermore, none of the other occupational categories proved more stable than teaching. In particular, K–12 teachers were as likely as those who worked in health occupations; as engineers, scientists, or lab/research assistants; and in several other white-collar occupational categories to work in the same occupational category in both 1994 and 1997.

Somewhat fewer of those who were working part time remained in teaching. Among April 1994 part-time K–12 teachers who worked in April 1997, 67 percent worked as

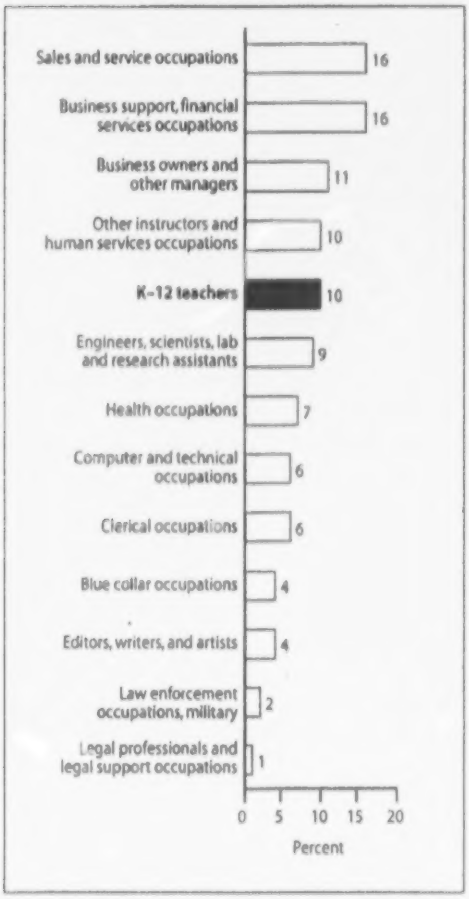
Figure A.—Percentage distribution of 1992–93 bachelor's degree recipients according to main activity: April 1994


Not enrolled, unemployed (3%)
Not enrolled, out of the labor force (3%)
Primarily studying (11%)
Working and studying equally (3%)
Primarily working (80%)

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaurate and Beyond Longitudinal Study, "Second Follow-up" (B&B:93/97), Data Analysis System.

Figure B.—Percentage distribution of 1992–93 bachelor's degree recipients who were employed full time according to occupation: April 1994



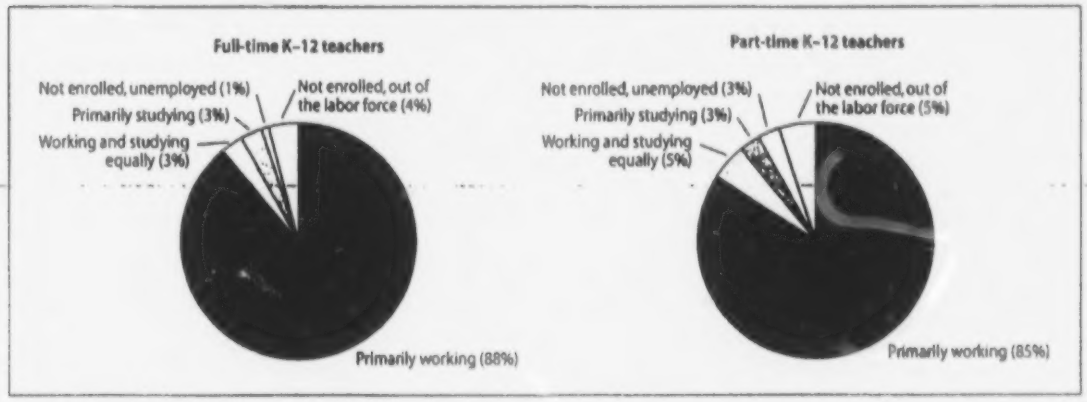
NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaurate and Beyond Longitudinal Study, "Second Follow-up" (B&B:93/97), Data Analysis System.

K–12 teachers in April 1997. Nevertheless, among graduates who worked in April 1997, those who worked part time in April 1994 as K–12 teachers were more likely than those who worked part time as computer or technical workers, sales/service representatives, blue-collar workers, business owners or other managers, or clerical workers to work in the same occupation in April 1997. Part-time K–12 teachers were as likely as graduates who worked part time in the remaining occupations to work in the same occupation in both time periods.

In addition to perceptions that the overall new-teacher attrition rate is high, policymakers and researchers fear that, among teachers, those who major in fields other than education, particularly mathematics and the natural sciences, are more likely than education majors to leave the profession. The B&B:93/97 data indicate that among those who were primarily working in April 1994, there were no differences between teachers with majors in education and those with majors in engineering, mathematics, or the natural sciences in the proportion who

Figure C.—Percentage distribution of 1992–93 bachelor's degree recipients who were employed as K–12 teachers in April 1994 according to main activity in April 1997, by April 1994 employment status


Full-time K–12 teachers
Not enrolled, unemployed (1%)
Primarily studying (3%)
Working and studying equally (3%)
Not enrolled, out of the labor force (4%)
Primarily working (88%)
Part-time K–12 teachers
Not enrolled, unemployed (3%)
Primarily studying (3%)
Working and studying equally (5%)
Not enrolled, out of the labor force (5%)
Primarily working (85%)

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaurate and Beyond Longitudinal Study, "Second Follow-up" (B&B:93/97), Data Analysis System.

were primarily working in April 1997. However, among K–12 teachers in April 1994 who were working in April 1997, 70 percent of those who had majored in engineering, mathematics, or the natural sciences were teaching at the K–12 level in April 1997, compared with 86 percent of education majors.

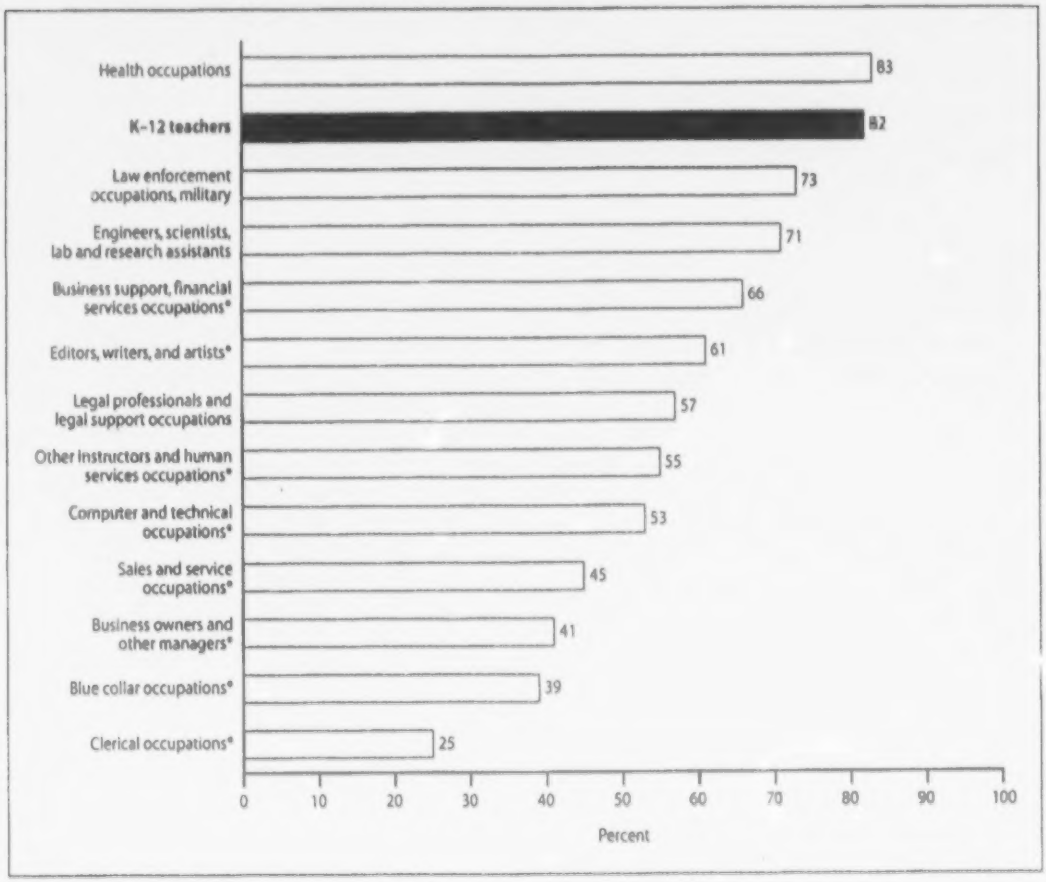
Thus, this analysis indicates that among 1992–93 college graduates who worked in April 1994, approximately a year after they had completed their bachelor's degrees, those who taught at the K–12 level were among the most stable of all employed graduates with respect to their occupations 3 years later. Relatively few teaching graduates had different main activities or different occupations in April 1997 than they did in April 1994. Graduates who worked in other occupations for which employees train as undergraduates (e.g., engineering and health occupations) also had relatively low rates of attrition. Moreover, these occupations also tended to have higher professional status than the occupations in which graduates were more likely to change occupations between 1994 and 1997. Therefore, this report also examines whether two additional variables—graduates' perceptions of the relationship between their postsecondary fields of study and occupations and their views about the professional status of their occupations—vary with occupations and are associated with changing occupations between April 1994 and April 1997.

Relationship between April occupations and postsecondary fields of study

Among 1992–93 graduates working as K–12 teachers in April 1994, nearly all reported that their jobs were related to the field they studied as undergraduates (97 percent among full-time teachers and 96 percent among part-time teachers). Similarly, among graduates who were working full time in April 1997, 93 percent of K–12 teachers reported that their jobs were somewhat or closely related to their graduate or undergraduate field of study. In both 1994 and 1997, the proportions of graduates employed full time in health occupations or as engineers, scientists, or lab/research assistants who indicated that their jobs were related to their major were similar to those of teachers.

Graduates who worked in many other occupations, however, were considerably less likely to report that their jobs were related to their undergraduate field. In April 1994, graduates who worked in clerical, blue-collar, or sales/service occupations or as business owners or other managers were less likely than teachers to report that their jobs were related to their undergraduate majors: 72 percent or less of graduates in these occupations did so. Furthermore, among full-time employees, other instructors/human services personnel (88 percent) and business support/financial services personnel and computer/technical workers (81 percent each) were less likely than teachers to

Figure D.—Among 1992–93 bachelor's degree recipients who worked full time in April 1994, percentage who worked in the same occupational category in April 1997, by April 1994 occupation



*Statistically significantly different from K–12 teachers at the .05 level.

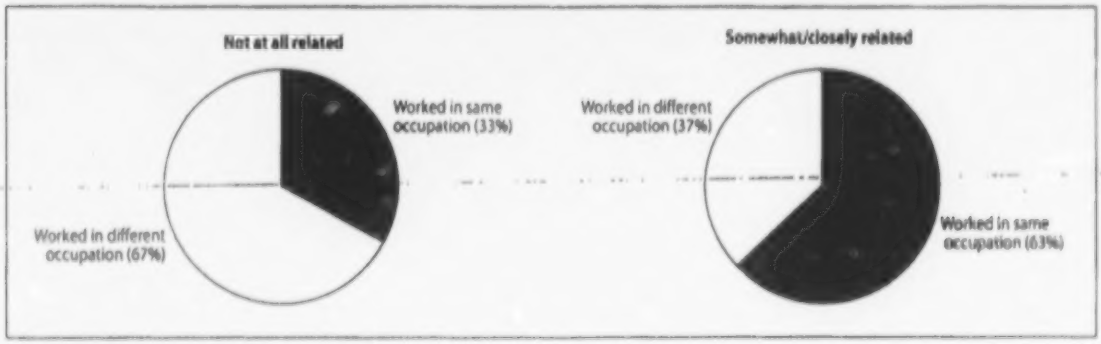
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaurate and Beyond Longitudinal Study, "Second Follow-up" (B&B:93/97), Data Analysis System.

report that their jobs were related to their undergraduate fields of study.

In April 1997, among graduates who were working full time, 93 percent of K–12 teachers reported that their jobs were somewhat or closely related to their graduate or undergraduate field of study, a proportion similar to that among those working full time as engineers, scientists, or lab/research assistants (93 percent) or in health occupations (92 percent). In April 1997, full-time K–12 teachers among 1992–93 college graduates were more likely than those working in all other occupational categories except legal occupations and editors, writers, and artists to report that their jobs were related to their postsecondary field of study.

As one might expect, graduates who reported that their April 1994 occupations were somewhat or closely related to their undergraduate fields of study were considerably less likely than those who reported that their 1994 occupations were not at all related to work in a different occupation in April 1997. Whereas 37 percent of graduates with jobs related to their field of study in 1994 worked in a different occupation 3 years later, 67 percent of those with unrelated jobs did so (figure E).

Figure E.—Percentage distribution of 1992–93 bachelor's degree recipients who worked in both April 1994 and April 1997 according to whether the two occupations differed, by whether 1994 occupation was related to undergraduate field of study


Not at all related
Worked in same occupation (33%)
Worked in different occupation (67%)
Somewhat/closely related
Worked in different occupation (37%)
Worked in same occupation (63%)

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaurate and Beyond Longitudinal Study, "Second Follow-up" (B&B:93/97), Data Analysis System.

Professional status of April occupations

Four-fifths of graduates who worked as full-time K–12 teachers in April 1994 believed that their teaching job both required a bachelor's degree and had possible or definite career potential. Although a similar proportion (79 percent) of graduates who worked full time as engineers, scientists, or lab/research assistants perceived their jobs as having similar professional status, graduates who worked full time in all other occupational categories were less likely to share that perception. In April 1997, 78 percent of graduates employed full time as K–12 teachers reported that their jobs required a degree and had possible or definite career potential. In contrast, 68 percent or less of all other full-time employed graduates—except engineers, scientists, or lab/research assistants and those in legal occupations—reported the same. In 1997, full-time teachers were not more likely than part-time teachers to report that their jobs required a degree and had career potential.

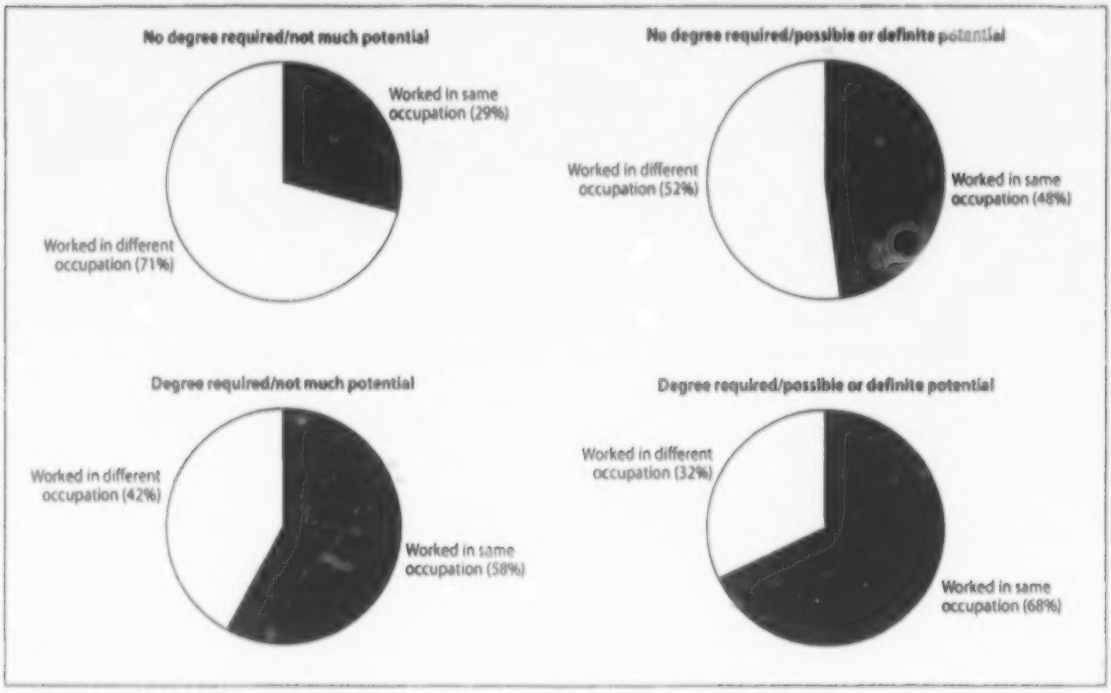
Again, as one might expect, graduates who perceived their April 1994 occupations as requiring a degree and having career potential were less likely than those who perceived otherwise to be working in a different occupation in April 1997. Among graduates who worked in both April 1994 and 1997, 32 percent of those who reported that their April 1994 jobs required a degree and had career potential were working in a different occupation in April 1997 (figure F). In contrast, 71 percent of those who reported that their 1994 job did not require a degree and did not have career potential worked in a different occupation 3 years later.

Changing occupations: Multivariate analysis

A multiple regression analysis was conducted to determine whether, after controlling for a number of variables—including graduates' perceptions of their jobs' professional status and relationship to their undergraduate majors—occupation in 1994 remained associated with their likelihood of working in the same occupation in April 1997. The analysis indicated that after controlling for age, gender, college entrance examination scores, cumulative undergraduate GPAs, perceived professional status of occupation, and perceived relationship between April 1994 occupation and undergraduate major, teaching remained among the most stable occupations. In fact, no occupational category was more stable than teaching.

Graduates' perceptions of their April 1994 job's professional status and of the relationship between their undergraduate field of study and their April 1994 job were, independently, related to whether they worked in the same occupational category at both points in time. Graduates who perceived their April 1994 job as unrelated or somewhat related to their undergraduate field of study were less likely than those who perceived a close relationship to work in the same occupation in 1997 as in 1994. Graduates who reported that a degree was required to obtain their April 1994 job were more likely to work in the same occupational

Figure F.—Percentage distribution of 1992–93 bachelor's degree recipients who worked in both April 1994 and April 1997 according to whether the two occupations differed, by whether 1994 occupation required a bachelor's degree and had career potential


No degree required/not much potential
Worked in same occupation (29%)
Worked in different occupation (71%)
No degree required/possible or definite potential
Worked in different occupation (52%)
Worked in same occupation (48%)
Degree required/not much potential
Worked in different occupation (42%)
Worked in same occupation (58%)
Degree required/possible or definite potential
Worked in different occupation (32%)
Worked in same occupation (68%)

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1993 Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B:93/97), Data Analysis System.

category at both points in time than were graduates who did not, although graduates' perceptions of the career potential of their jobs appeared not to make a difference.

Summary

Among graduates who were employed in April 1994 and April 1997, K–12 teachers (i.e., graduates who taught in 1994) were as likely as graduates who worked in other white-collar, professional occupations to work in the same occupational category in April 1997. Specifically, approximately four-fifths of graduates who taught in April 1994 were also teaching in April 1997, and similar proportions of graduates who worked in health occupations; as engineers, scientists, or lab/research assistants; in legal occupations; in law enforcement or the military; or as business support/financial services workers worked in their respective occupational categories in both April 1994 and April 1997. Graduates who worked in other occupational categories in April 1994 were less likely than K–12 teachers to work in the same occupational category at both points in time.

References

Archer, J. (1999). New Teachers Abandon Field at High Rate. *Education Week, 18*(27): 1, 20–21.

Baker, D.P., and Smith, T. (1997). Trend 2: Teacher Turnover and Teacher Quality: Refocusing the Issue. *Teachers College Record, 99*: 29–35.

Cooperman, S. (2000). The Sky Is Not Falling!: There's a Well-Traveled Route to Solving Our Teacher Shortage. *Education Week, 19*(20): 31.

Darling-Hammond, L. (1984). *Beyond the Commission Reports: The Coming Crisis in Teaching*. Santa Monica, CA: RAND Corporation.

Gerald, D.E., and Hussar, W.J. (2000). *Projections of Education Statistics to 2010* (NCES 2000–071). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Goodnough, A. (2000, January 21). Union Says Poll of Teachers Predicts Wave of Retirements. *The New York Times*.

Grissmer, D., and Kirby, S.N. (1997). Teacher Turnover and Teacher Quality. *Teachers College Record, 99*: 45–56.

Holmes Group. (1986). *Tomorrow's Teachers*. East Lansing, MI: Author.

Johnson, S.M. (2001). Can Professional Certification for Teachers Reshape Teaching as a Career? *Phi Delta Kappan, 82*(5): 393–399.

Kanstoroom, M., and Finn, C.E., Jr. (Eds.) (1999). *Better Teachers, Better Schools*. Washington, DC: Fordham Foundation.

Murnane, R.J., Singer, J.D., Willett, J.B., Kemple, J.J., and Olson, R.J. (1991). *Who Will Teach? Policies That Matter*. Cambridge, MA: Harvard University Press.

National Commission on Teaching and America's Future. (1996). *What Matters Most: Teaching for America's Future*. New York: Author.

National Commission on Teaching and America's Future. (1997). *Doing What Matters Most: Investing in Quality Teaching*. New York: Author.

Whitener, S.D., Gruber, K.J., Lynch, H., Tingos, K., Perona, M., and Fondelier, S. (1997). *Characteristics of Stayers, Movers, and Leavers: Results From the Teacher Followup Survey: 1994–95* (NCES 97–450). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Data source: The NCES 1993 Baccalaureate and Beyond Longitudinal Study (B&B:93/97).

For technical information, see the complete report:

Henke, R.R., and Zahn, L. (2001). *Attrition of New Teachers Among Recent College Graduates: Comparing Occupational Stability Among 1992–93 Graduates Who Taught and Those Who Worked in Other Occupations* (NCES 2001–189).

Author affiliations: R.R. Henke and L. Zahn, MPR Associates, Inc.

For questions about content, contact Aurora D'Amico *(aurora.d'amico@ed.gov)*.

To obtain the complete report (NCES 2001–189), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov)*.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Faculty & Instructional Staff

Background Characteristics, Work Activities, and Compensation of Faculty and Instructional Staff in Postsecondary Institutions: Fall 1998

Linda J. Zimbler

This article was originally published as the Summary section of the E.D. Tabs report of the same name. The sample survey data are from the National Study of Postsecondary Faculty (NSOPF).

This report describes faculty and instructional staff in public and private not-for-profit 2-year-and-above postsecondary institutions in the United States. It is the first publication based on the 1999 National Study of Postsecondary Faculty (NSOPF:99). For this study, a nationally representative sample of faculty and instructional staff received questionnaires in 1999 that asked about their employment in the fall of 1998. Depending on their institution's policies, some faculty did not have instructional duties (e.g., teaching one or more classes, or advising or supervising students' academic activities), and some individuals with instructional duties did not have "faculty" status. Further, all instructional duties for some individuals were related to noncredit courses or advising or supervising noncredit academic activities. This article begins with an overview of *all faculty and instructional staff*. It then provides more information about *those faculty and instructional staff with some instructional duties for credit* (i.e., instructional duties related to credit courses or advising or supervising academic activities for which students received credit).

All Faculty and Instructional Staff

NSOPF:99 indicates that in the fall of 1998, there were about 1.1 million (1,074,000) faculty and instructional staff[1] employed by public and private not-for-profit 2-year-and-above postsecondary institutions in the United States. Most faculty and instructional staff (i.e., approximately 761,000) were employed by 4-year institutions. Among the various types of 4-year institutions in the country,[2] public research and public comprehensive institutions employed the most faculty and instructional staff (201,000 and 137,000, respectively). Private doctoral and private research institutions were among the smallest employers of faculty and instructional staff (43,000 and 64,000, respectively) (figure A).

Employment status of all faculty and instructional staff

Fifty-seven percent of faculty and instructional staff were employed full time and 43 percent were employed part time by their institutions in the fall of 1998. The employment status of faculty and instructional staff varied depending on the type of college or university where they were employed. Faculty and instructional staff in research institutions were much more likely to be employed full time (80 percent for public research and 71 percent for private not-for-profit research) than faculty and instructional staff employed by public 2-year institutions, where approximately one-third (36 percent) were employed full time. Thus, although public 2-year institutions employed a large number of faculty and instructional staff (figure A), most worked part time at their institution.

Principal activity of all faculty and instructional staff

Faculty are often thought of primarily as teachers, but faculty are assigned to a variety of other activities at their institutions, such as research, administration, community/public service, clinical service, and technical activities. In fact, among full-time[3] faculty and instructional staff, 35 percent indicated that their principal activity at their institution was something other than teaching: approximately 11 percent indicated research, 13 percent indicated administrative activities, and 11 percent indicated some other activity (e.g., technical activities, clinical service, or community/public service) was their principal activity during the fall of 1998 (figure B). Among part-time faculty and instructional staff, 89 percent indicated that teaching was their principal activity, and 11 percent indicated that something else was their principal activity: 2 percent indicated research, 2 percent indicated administration, and 7 percent indicated some other activity (figure B).

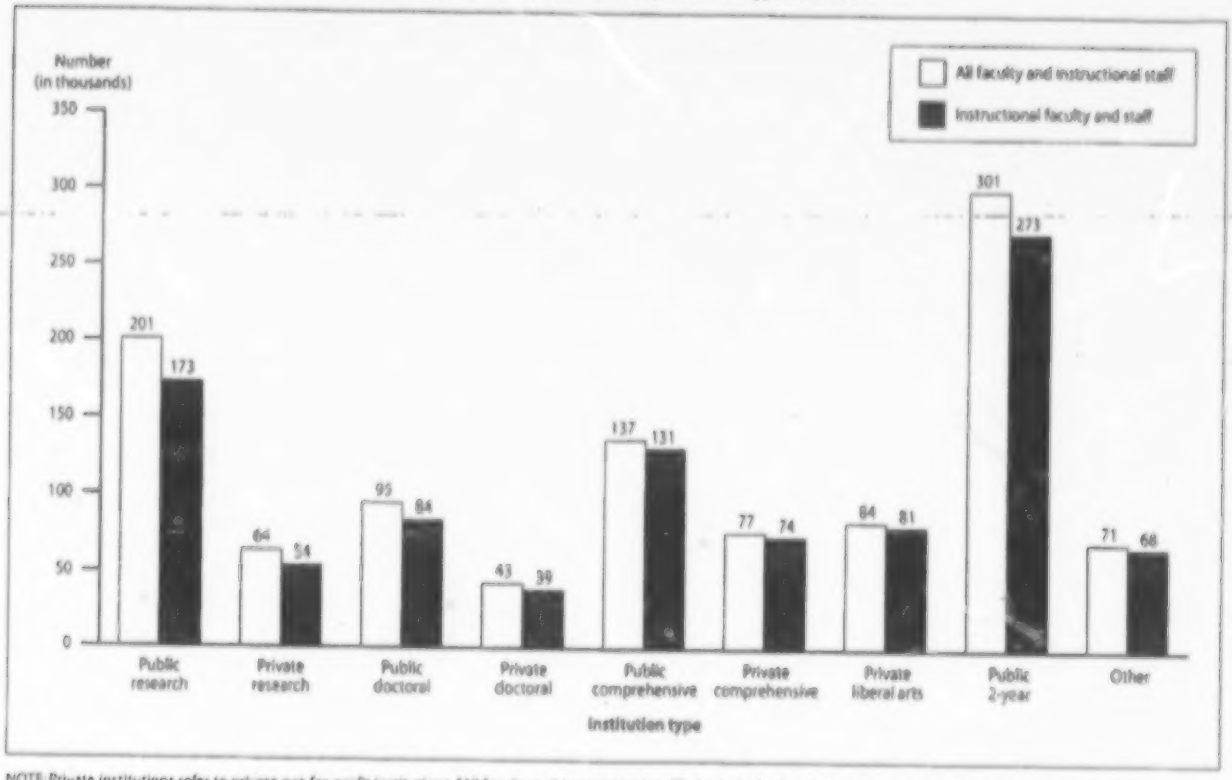
Full-time faculty and instructional staff at public and private not-for-profit research institutions were more likely

[1] Teaching assistants were not included in NSOPF.

[2] Throughout the report, comparisons are made across institution types and program areas. Institution types are based on the Carnegie classification and whether the institution is public or private not-for-profit. To improve readability, the phrase "not-for-profit" may be excluded when referring to "private not-for-profit" institutions. There were no "private for-profit" institutions in the NSOPF sample.

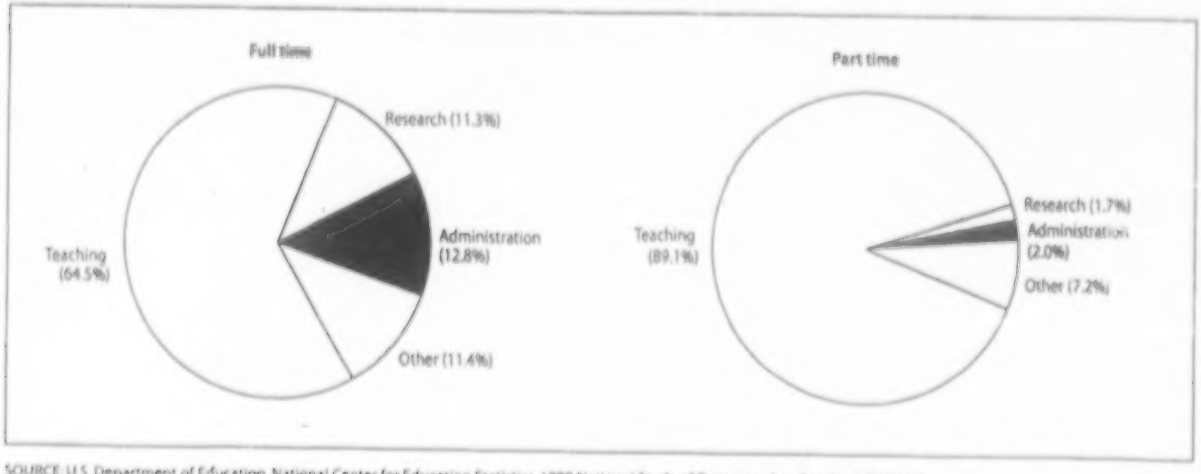
[3] Terminology related to full- and part-time instructional faculty and staff references the employment status of the person at the institution rather than the amount of instruction the person did.

Figure A.—Number of faculty and instructional staff in postsecondary institutions, by institution type: Fall 1998



NOTE: Private institutions refer to private not-for-profit institutions. "All faculty and instructional staff" also includes faculty with no instructional responsibilities.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99).

Figure B.—Principal activity of all faculty and instructional staff, by employment status: Fall 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99).

than those at other types of institutions to indicate that their principal activity was research. For instance, about one-third of the full-time faculty at private research universities indicated that their principal activity at their institution was research. In contrast, almost no full-time faculty and instructional staff at public 2-year institutions were engaged primarily in research.

A higher percentage of full-time faculty and instructional staff in the program areas of engineering and the natural sciences indicated that their principal activity was research (24 and 29 percent, respectively) than those in the program areas of business (7 percent), education (4 percent), fine arts (1 percent), and the humanities (4 percent).

Instructional Faculty and Staff

Although some (35 percent of full-time and 11 percent of part-time) faculty and instructional staff indicated that teaching was not their *principal* activity during the fall of 1998 (figure B), approximately 91 percent of full- and part-time faculty and instructional staff had *some* for-credit teaching responsibilities during the fall of 1998 (figure C).

Not all postsecondary institutions designate their instructional staff as faculty. Seventeen percent of all part-time and 3 percent of all full-time instructional staff did not have faculty status at their institution in the fall of 1998 (figure D).

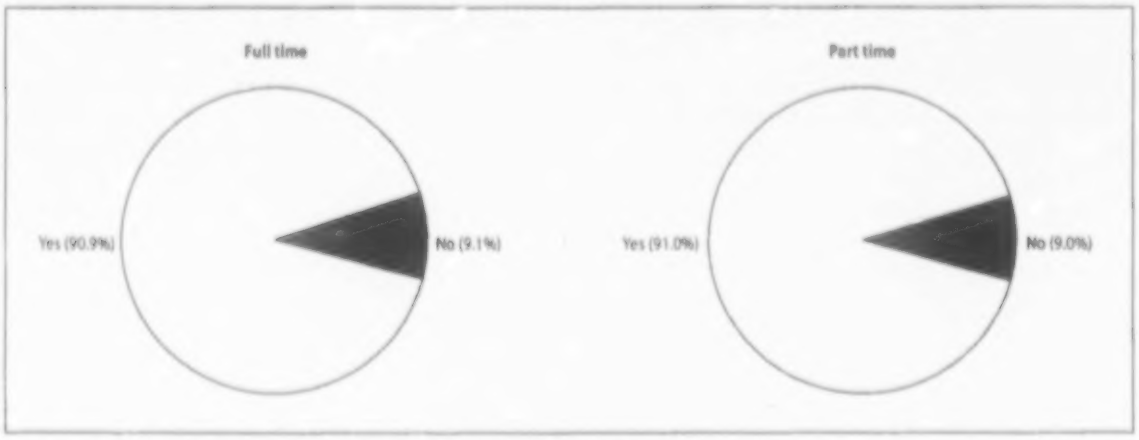
Among the approximately 1 million (976,000) faculty and instructional staff who had some for-credit instructional responsibilities, 57 percent were employed full time and 43 percent were employed part time, the same distribution as for all faculty and instructional staff. The remainder of this article presents highlights on the background characteristics, work activities, and compensation of faculty and staff with at least some instructional duties related to credit courses or advising or supervising academic activities for which students received credit.

Instructional faculty and staff background characteristics

In the fall of 1998, the majority of full-time instructional faculty and staff were White, non-Hispanic (85 percent). Approximately 6 percent were Asian or Pacific Islander; 5 percent were Black, non-Hispanic; 3 percent were Hispanic; and 1 percent were American Indian or Alaska Native (figure E). Most full-time instructional faculty and staff (64 percent) were men (figure F). Among full-time instructional faculty and staff at 2-year institutions, however, men and women were equally represented.

Eight of every 10 (84 percent of) full-time instructional faculty and staff employed at 4-year institutions held one of three professorial ranks (i.e., full, associate, or assistant). The majority of full-time instructional faculty and staff

Figure C.—Whether faculty and instructional staff had any for-credit instructional responsibilities, by employment status: Fall 1998

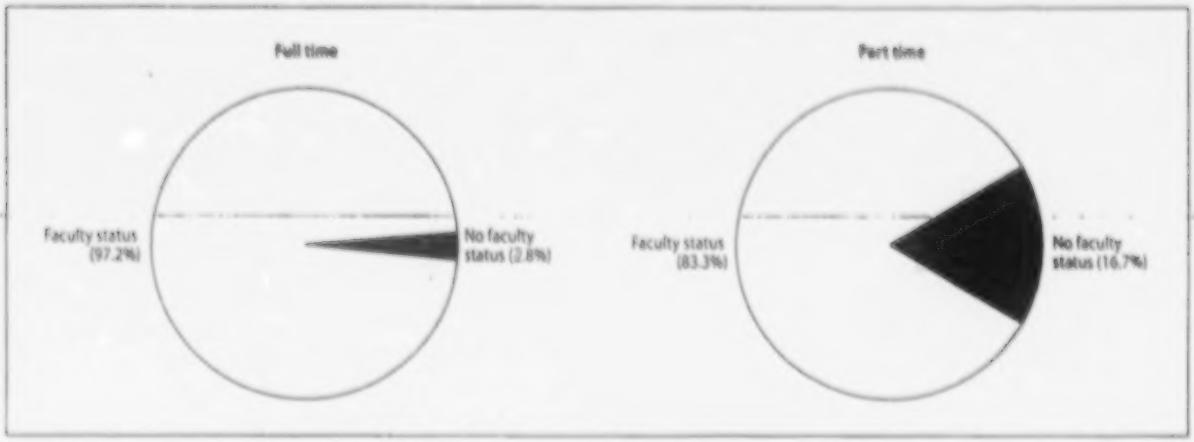


NOTE: "No" indicates no instructional duties or all instructional duties related to noncredit courses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99).

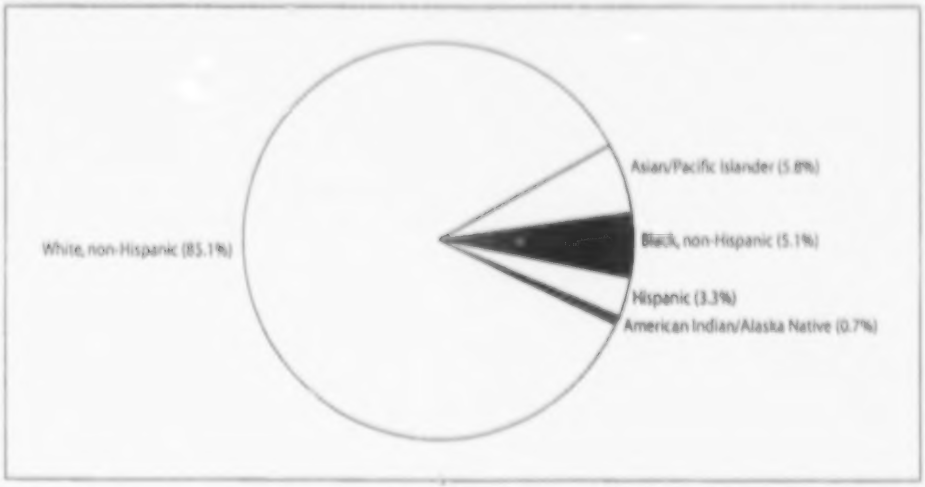
cl 80

Figure D.—Instructional staff with faculty status, by employment status: Fall 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF-99).

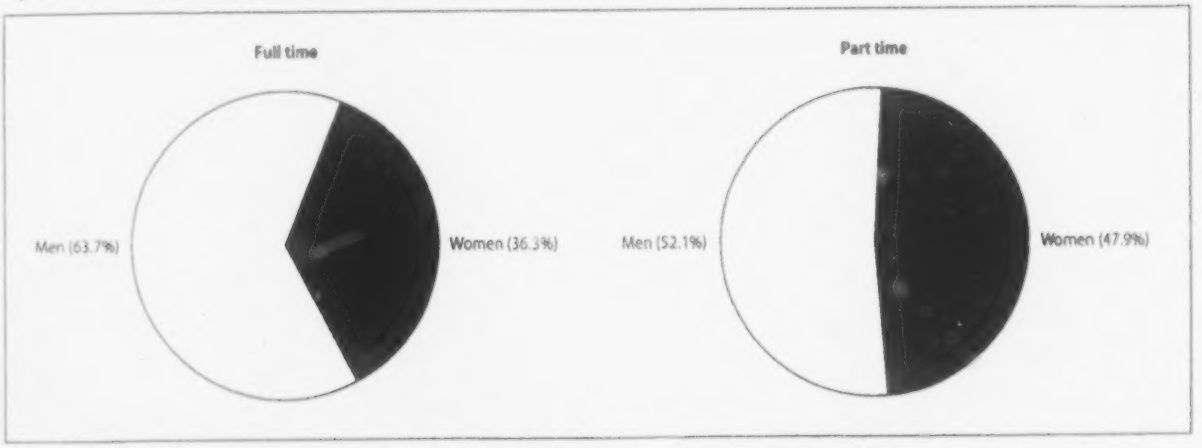
Figure E.—Racial/ethnic distribution of full-time instructional faculty and staff: Fall 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF-99).

BEST COPY AVAILABLE

Figure F.—Gender of instructional faculty and staff, by employment status: Fall 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 National Study of Postsecondary Faculty (NSOPF:99).

(53 percent) were tenured in the fall of 1998. Another 19 percent of full-time instructional faculty and staff were on tenure track, but not tenured; 18 percent were not on tenure track, although the institution had a tenure system; and 10 percent were at institutions that did not have a tenure system.

The majority of part-time instructional faculty and staff (78 percent) were not on tenure track, although their institution had a tenure system. Only 4 percent of part-time instructional faculty and staff indicated that they were tenured in the fall of 1998; 2 percent were on tenure track, but not tenured; and 17 percent were employed by institutions that did not have a tenure system.

In the fall of 1998, 67 percent of full-time instructional faculty and staff at postsecondary institutions had a doctoral or a first-professional[4] degree, 28 percent had a master's degree, and 5 percent had a bachelor's degree or less.[5] Approximately 92 percent of full-time instructional faculty and staff at private not-for-profit research institutions had doctoral or first-professional degrees. In contrast, about 20 percent of the full-time instructional faculty and staff at public 2-year institutions held such degrees. Approximately 60 percent of part-time instructional faculty and staff at private not-for-profit research institutions had doctoral or first-professional degrees, whereas about 11 percent of the part-time instructional faculty and staff at public 2-year institutions held such degrees.

Instructional faculty and staff work activities

Across all colleges and universities, the average workweek for full-time instructional faculty and staff was 53 hours and the average workweek for part-time instructional faculty and staff was 37 hours in the fall of 1998. Full-time instructional faculty and staff spent the majority (57 percent) of their workweek on teaching activities,[6] and divided the remainder of their time between research activities,[7] administrative activities,[8] and other activities.[9]

Full-time instructional faculty and staff spent 11 hours per week, on average, actually teaching classes for credit in the fall of 1998. The number of hours spent teaching classes

[4]First-professional areas of study include medicine, dentistry, optometry, osteopathic medicine, pharmacy, pediatric medicine, veterinary medicine, chiropractic, law, and theological professions.

[5]A very small percentage of full-time instructional faculty and staff reported having earned no postsecondary degree. These individuals are included among those with "a bachelor's degree or less."

[6]Teaching activities included teaching, grading papers, and preparing courses; developing new curricula; advising or supervising students; supervising student teachers and interns; and working with student organizations or intramural athletics.

[7]Research activities included research; reviewing or preparing articles or books; attending or preparing for professional meetings or conferences; reviewing proposals; seeking outside funding; and giving performances or exhibitions in the fine or applied arts, or giving speeches.

[8]Administrative activities included department or institutionwide meetings or committee work.

[9]Other activities included professional growth (including taking courses, pursuing an advanced degree, and other professional development activities, such as practice or activities to remain current in your field); outside consulting or freelance work; and service/other nonteaching activities (including providing legal or medical services or psychological counseling to clients or patients, paid or unpaid community or public service, service to professional societies/associations, and other activities or work not listed in any of the other activities).

ranged from 7 hours at private research institutions to 17 hours at public 2-year institutions. Part-time instructional faculty and staff spent approximately 7 hours per week teaching classes for credit in the fall of 1998.

Instructional faculty and staff compensation

This section of the article provides information on the monetary compensation received by full- and part-time instructional faculty and staff during the 1998 calendar year. Income from four different sources is examined:

- basic salary from the institution;
- other income from the institution (including income from additional teaching activities, e.g., for summer session, or from supplements not included in basic salary, e.g., for administration, research, or coaching sports; the estimated value of nonmonetary compensation, e.g., food, housing, or car; and any other income from the institution);
- outside consulting income (including income from consulting work, a consulting business, or freelance work); and
- other outside income (including income from employment at another academic institution; legal or medical services or psychological counseling; self-owned business, other than consulting; professional performances or exhibitions; speaking fees and honoraria; royalties or commissions; the estimated value of nonmonetary compensation; and income from any other employment).

During the 1998 calendar year, full-time instructional faculty and staff earned approximately $69,000, on average, from all sources, ranging from about $102,000 at private not-for-profit research institutions to $51,000 at private liberal arts colleges. Of this total income, approximately $57,000 was earned from the faculty member's basic salary, $4,000 was earned from other income from the institution, $2,000 was earned from outside consulting income, and $6,000 was earned from other outside income, on average. These estimates include all full-time instructional faculty and staff, regardless of whether they earned a particular type of income for the 1998 calendar year.

Part-time instructional faculty and staff earned substantially less income than their full-time counterparts ($46,000 vs. $69,000). Average basic salary from their institution was about $12,000 for part-time instructional faculty and staff compared to $57,000 for those working full time. Part-time instructional faculty and staff, however, earned substantially more outside income than their full-time counterparts ($32,000 vs. $6,000, not including consulting income), perhaps reflecting income from a second job.

In fact, 77 percent of part-time instructional faculty and staff earned income (other than consulting income) from outside their institution during the 1998 calendar year. Among those part-time instructional faculty and staff who earned such income from outside their institution in 1998, the average amount was $41,000. In comparison, 47 percent of full-time instructional faculty and staff earned income from outside their institution during 1998, averaging about $13,000.

Data source: The NCES 1999 National Study of Postsecondary Faculty (NSOPF:99).

For technical information, see the complete report:

Zimbler, L.J. (2001). *Background Characteristics, Work Activities, and Compensation of Faculty and Instructional Staff in Postsecondary Institutions: Fall 1998* (NCES 2001-152).

Author affiliation: L.J. Zimbler, NCES.

For questions about content, contact Linda J. Zimbler *(linda.zimbler@ed.gov)*.

To obtain the complete report (NCES 2001-152), call the toll-free ED Pubs number (877-433-7827) or visit the NCES Web Site *(http://nces.ed.gov)*.

BEST COPY AVAILABLE

The Status of Academic Libraries in the United States: Results From the 1996 Academic Library Survey With Historical Comparisons
Maggie Cahalan, Wendy Mansfield, and Natalie Justh 83

Academic Libraries

The Status of Academic Libraries in the United States: Results From the 1996 Academic Library Survey With Historical Comparisons

Maggie Cahalan, Wendy Mansfield, and Natalie Justh

This article was originally published as the Introduction and Highlights of the report of the same name. The universe data are from the NCES Integrated Postsecondary Education Data System "Academic Libraries Survey" (IPEDS-L). Supplemental data sources are listed at the end of this article.

Introduction

Two of the national education goals for the year 2000 emphasize the important roles played by the resources and staff efforts of academic libraries. The nation's fourth education goal, which is concerned with the ongoing need for access to learning resources for teachers and faculty members, and the nation's sixth education goal, which speaks of lifelong learning, both stress the importance of maintaining and improving the nation's academic libraries (National Education Goals Panel 1994). This report presents a description of the status of academic libraries in 1996, a time of rapid technology-related change and increased introduction of electronic services (Lynch 1996). In addition to detailed tabulations for 1996, the report presents historical comparisons with previous years, with a focus on comparisons since 1990.

The data in this report come from postsecondary degree-granting institutions in the United States. The data were collected through the Academic Libraries Survey (ALS) of the U.S. Department of Education's National Center for Education Statistics (NCES). In 1996, ALS was a part of the NCES Integrated Postsecondary Education Data System (IPEDS-L).

Number of Academic Libraries

In fall 1996, 3,408 of the 3,792 postsecondary degree-granting institutions in the United States reported that they had their own academic library. Just over one-fourth (28 percent) of the academic libraries in postsecondary degree-granting institutions had branch libraries, and among those with branches, the mean number of branches was 2.7. Branch libraries are auxiliary library service outlets with quarters separate from the central library that houses the basic collection.

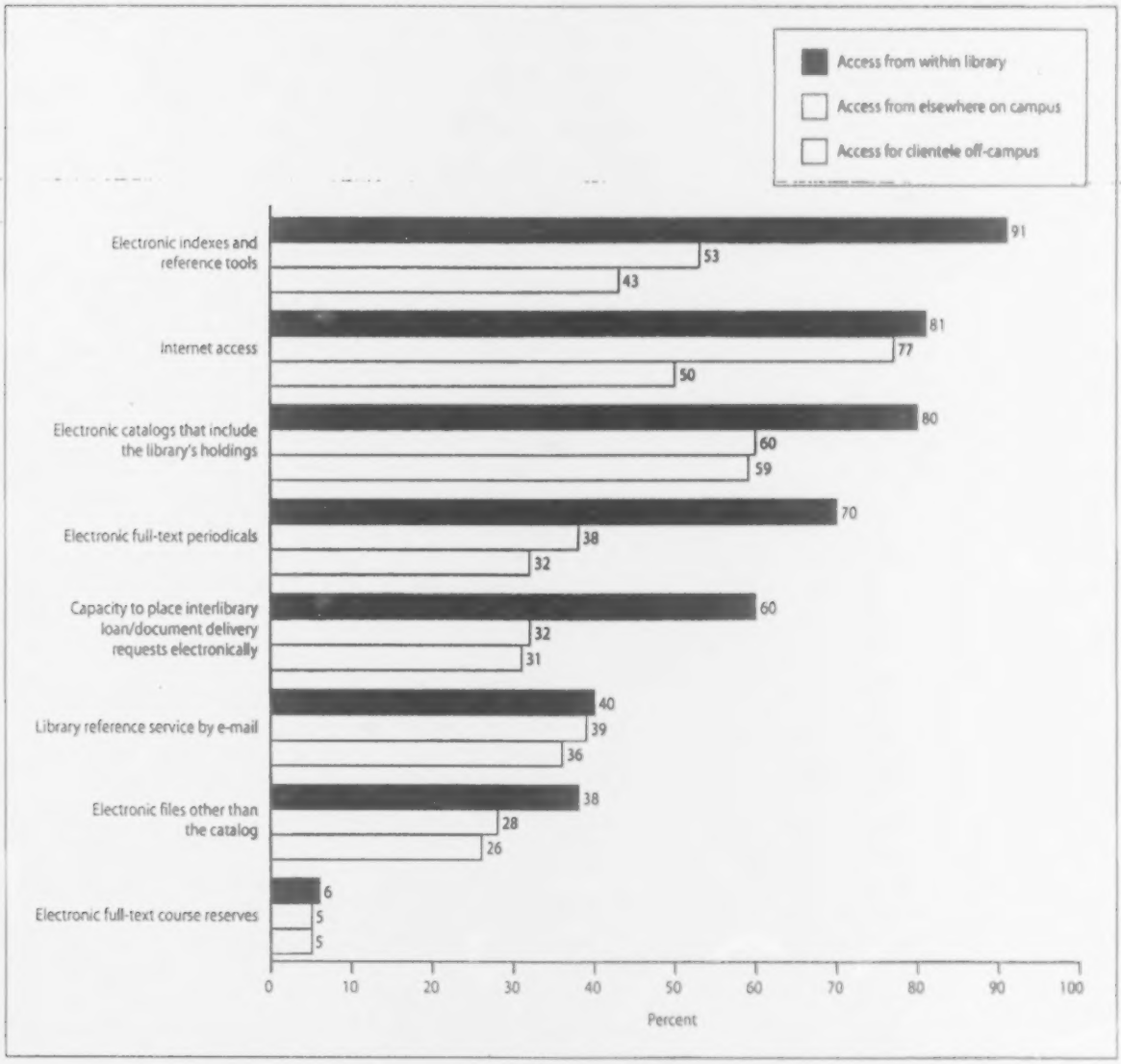
Services

Electronic services

The rapid development of electronic and Internet library services continues. In fall 1996, over 90 percent of academic libraries had electronic indexes (such as citation or topical indexes) and reference tools (such as encyclopedias and statistical compilations), and 81 percent had Internet access from within the library (figure A). Eighty percent of academic libraries provided access from within the library to an electronic catalog that included the library's holdings, and 59 percent provided access to the electronic catalog for clientele off-campus.

BEST COPY AVAILABLE

Figure A.—**Percentage of academic libraries having selected types of electronic services available from within library, from elsewhere on campus, and for clientele off-campus: Fall 1996**



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996 Integrated Postsecondary Education Data System, "Academic Libraries Survey" (IPEDS-L:96). (Based on figure 2 on p.14 and table 2 on p.13 of the complete report from which this article is excerpted.)

Circulation

In fiscal year (FY) 1996, general collection circulation transactions in the nation's academic libraries at postsecondary degree-granting institutions totaled 186.5 million, and reserve collection circulation transactions totaled 44.9 million. General circulation transactions include materials in the library's general collection such as books, videos, and records being taken out or charged out by patrons. General circulation transactions also include renewal of charged-out library materials. Reserve circulation transactions involve materials that have been removed from general circulation and set aside so they will be available for a certain academic course or activity offered by the institution.

In FY 96, 18.5 general circulation transactions were conducted per full-time-equivalent (FTE) student.[1] The number of general circulation transactions varied widely by type (i.e., control and 1994 Carnegie classification) of the institution attended, ranging from 8.1 transactions per FTE student at 2-year Associate of Arts institutions to 35.5 transactions per FTE student at Specialized institutions such as military or law schools.

Interlibrary loans

Interlibrary loans are transactions related to filling requests from other libraries for materials. In FY 96, academic libraries provided a total of 9.4 million interlibrary loans to other libraries (both academic and other types of libraries) and received 7.5 million loans. With the advent of more electronic searching and shared catalogs, interlibrary loans have increased in recent years. For example, interlibrary loans *received* by academic libraries increased by 64 percent over the period between 1990 and 1996.

Public service hours

In fall 1996, on average, academic library physical facilities were open about 76 hours per week. The largest percentage of academic libraries (44 percent) reported providing 60–79 hours of service per typical week. Forty percent, however, provided 80 or more public service hours per typical week.

Visits per week

In fall 1996, there were about 1.6 library visits per week per FTE student based on a gate count of 16.5 million visitors per typical week. The gate count is the number of persons who physically enter library facilities (a person can be counted more than once).

Collections

Total number of volumes

Taken together, the nation's 3,408 academic libraries at postsecondary degree-granting institutions held a total of 806.7 million volumes of books, bound serials, and government documents. Excluding duplicate titles within a library's collection, there were 449.2 million titles at the end of FY 96.

Of the total volumes, almost half (45 percent, or 352.1 million) were held at the 125 institutions categorized under the 1994 Carnegie classification as Research I and II institutions (figure B). Research I and II institutions have about 23 percent of FTE students. In contrast, 6 percent of volumes were at 2-year Associate of Arts degree-granting institutions, which have 30 percent of FTE students.

Volumes per FTE student

Over the years since 1974, the number of volumes held in academic libraries per FTE student increased. In FY 74, there were 57 volumes per FTE student, and in FY 96, there were 81 volumes per FTE student. The number of volumes per FTE student varied widely among different types of institutions, ranging from 17 volumes per FTE student in public 2-year Associate of Arts degree-granting institutions to 268 volumes per FTE student in private Research I and II institutions.

The number of volumes added to library collections per FTE student declined from 3.0 in FY 74 to a low of 1.9 in FY 90. In FY 96, the number of volumes added per FTE student was 2.1.

Staff

Numbers and types of staff

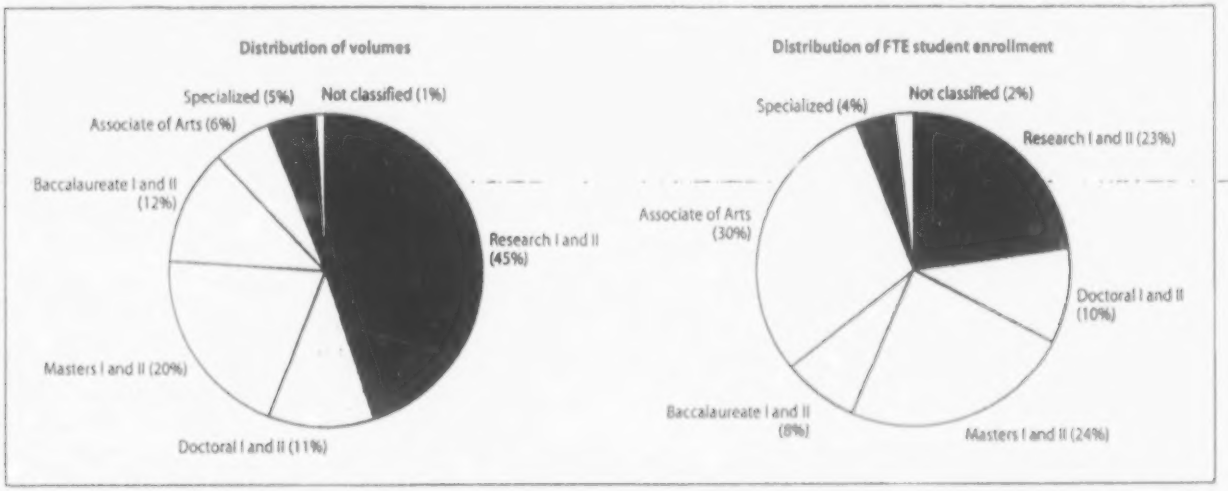
A total of 95,580 FTE staff worked in academic libraries in fall 1996. Of the total, just under one-third (27,268, or 29 percent) were librarians or other professional staff. This group included staff members doing work that required professional education (a master's degree or equivalent) in the theoretical and scientific aspects of librarianship. Professional staff also included staff not trained as professional librarians, but having equivalent education and training in related fields.

Student assistants, employed on a temporary basis, made up 29 percent of total academic library staff. The largest percentage of academic library staff were classified as other paid staff, comprising 42 percent of all academic library staff. Other paid staff included all staff not categorized as library professional staff or student assistants.

Based on counts of postsecondary education staff collected since 1976, it appears that library staff growth has not kept pace with that experienced among the total postsecondary education staff. Overall, since 1976, total library FTE staff has increased by 18 percent, while the total FTE staff in postsecondary degree-granting institutions has increased by about 38 percent (figure C). The total number of library staff, including student assistants, declined by about 1.3 percent from 1990 to 1996.

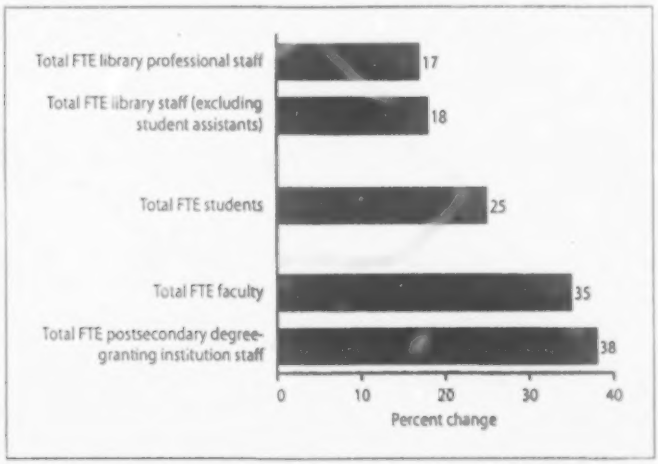
[1]The number of transactions per FTE student was calculated based on total FTE enrollments and transactions across all institutions with an academic library.

Figure B.—Percentage distribution of volumes of books, bound serials, and government documents held at the end of the year and distribution of full-time-equivalent (FTE) student enrollment by Carnegie classification: Fiscal year 1996


Distribution of volumes
Specialized (5%)
Not classified (1%)
Associate of Arts (6%)
Baccalaureate I and II (12%)
Research I and II (45%)
Masters I and II (20%)
Doctoral I and II (11%)
Distribution of FTE student enrollment
Specialized (4%)
Not classified (2%)
Research I and II (23%)
Associate of Arts (30%)
Doctoral I and II (10%)
Baccalaureate I and II (8%)
Masters I and II (24%)

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995 and 1996 Integrated Postsecondary Education Data System, "Academic Libraries Survey" (IPEDS-L:96) and "Fall Enrollment Survey" (IPEDS-EF:95). (Originally published as figure 8 on p. 30 of the complete report from which this article is excerpted.)

Figure C.—Percent change in full-time-equivalent (FTE) academic library staff and postsecondary degree-granting institution FTE students and staff: Fall 1976–1995/1996



NOTE: The time periods used in the calculations correspond to the years of scheduled data collections. Calculations of percent change for library-related staff are for the period 1976 to 1996. Calculations of percent change for students, faculty, and all FTE staff in degree-granting postsecondary institutions are for 1976 to 1995.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995 and 1996 Integrated Postsecondary Education Data System, "Academic Libraries Survey" (IPEDS-L:96) and "Fall Staff Survey" (IPEDS-S:95). (Originally published as figure 11 on p. 38 of the complete report from which this article is excerpted.)

BEST COPY AVAILABLE

Staff per 1,000 FTE students

In fall 1996, there were 9.6 total FTE library staff (including student assistants) per 1,000 FTE students. The institutional median number of FTE library staff per 1,000 FTE students was similar (8.7). Excluding student assistants, the institutional median was 5.8 FTE library staff per 1,000 FTE students.

Expenditures

In FY 96, operating expenditures for the 3,408 academic libraries at postsecondary degree-granting institutions totaled $4.30 billion. Half the total expenditures went to salaries and wages.

Just over one-third (35 percent) of expenditures went to information resources related to the library collection. This category includes expenditures for books and other printed materials (e.g., cartographic materials), current serials, microforms, audiovisual materials, computer files and search services, document delivery and interlibrary loan, and other collection expenditures. Among information resources expenditures, the largest category of expenditures was current serial subscriptions, accounting for fully half of the information resources–related expenditures.

An additional 16 percent of expenditures were for furniture and equipment (e.g., book shelving, security equipment), computer hardware and software, bibliographic utilities (e.g., OCLC Online Computer Library Center, Social Science Abstracts), and preservation costs.

Expenditures per FTE student

Academic library expenditures per FTE student in constant 1996 dollars were $445 in 1974 and $431 in 1996. Low points in expenditures per FTE student were reached in 1981 ($372) and 1990 ($392). Between 1990 and 1996, expenditures per FTE student increased by about 4 percent in constant 1996 dollars.

Percentage of E&G expenditures

Considering academic library expenditures as a part of an institution's total Education and General (E&G) expenditures[2] for a given year, there seems to have been a small, steady decline in the percentage of total E&G spent on academic libraries over the period since 1974. The percentage of E&G expenditures for academic libraries was 3.9 percent in 1974 and 2.8 percent in 1996.

References

Lynch, M.J. (1996). *Electronic Services in Academic Libraries.* Chicago: American Library Association.

National Education Goals Panel. (1994). *Data for the National Education Goals Report. Volume One: National Data.* Washington, DC: U.S. Government Printing Office.

[2]E&G expenditures are the total expenditures for operating the institution.

Data sources: The NCES Integrated Postsecondary Education Data System, "Academic Libraries Survey" (IPEDS-L:90, IPEDS-L:94, and IPEDS-L:96), "Fall Enrollment Survey" (IPEDS-EF:89 and IPEDS-EF:95), "Fall Staff Survey" (IPEDS-S:95), "Finance Survey" (IPEDS-F:90 and IPEDS-F:96); and the following publication: *Digest of Education Statistics: 1996* (NCES 96–133).

For technical information, see the complete report:

Cahalan, M., Mansfield, W., and Justh, N. (2001). *The Status of Academic Libraries in the United States: Results From the 1996 Academic Library Survey With Historical Comparisons* (NCES 2001–301).

Author affiliations: M. Cahalan, W. Mansfield, and N. Justh, Mathematica Policy Research, Inc.

For questions about content, contact Jeffrey W. Williams (*jeffrey.williams@ed.gov*).

To obtain the complete report (NCES 2001–301), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site (*http://nces.ed.gov*), or contact GPO (202–512–1800).

What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study
Stéphane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn 89

Civic Education

What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study

Stéphane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn

This article was originally published as the* Highlights of U.S. Results From the International IEA Civic Education Study (CivEd). *The sample survey data are from the CivEd assessment.

In 1999, the United States participated with 27 other countries in the IEA Civic Education Study (CivEd), an international assessment designed to tap the civic knowledge and skills of 14-year-olds and their attitudes toward democracy and citizenship. The assessment followed a series of case studies conducted in several countries; both were conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA). The National Center for Education Statistics (NCES), the sponsor for the study in the United States, produced this report to inform education practitioners, policymakers, parents, and concerned citizens of the status of civic education in our nation today.

In the United States, the assessment was administered to 2,811 students across 124 public and private schools nationwide at the beginning of ninth grade, the grade in which most 14-year-olds were enrolled at the time of the assessment (October 1999). The assessment was not designed to measure knowledge of a particular country's government but instead was developed through expert consensus to measure knowledge and understanding of key civic principles that are universal across democracies.

Figure 1 provides the list of countries participating in the CivEd assessment.

CivEd consisted of three instruments: a student questionnaire, a school questionnaire, and a teacher questionnaire. Five types of items were developed for the student questionnaire:

- Civic content items (type 1) assessed knowledge of key civic principles and pivotal ideas (e.g., key features of democracies) measured by multiple-choice items.
- Civic skills items (type 2) assessed skills in using civic-related knowledge through multiple-choice items (e.g., understanding a brief political article or a political cartoon).
- Survey items measured students' concepts of democracy, citizenship, and government (type 3); attitudes toward civic issues (type 4); and expected political participation (type 5).

Additional survey questions assessed students' perceptions of the climate of the classroom and other background variables.

BEST COPY AVAILABLE

Figure 1.—Countries participating in the CivEd Assessment

Australia	Finland	Portugal
Belgium (French)	Germany	Romania
Bulgaria	Greece	Russian Federation
Chile	Hong Kong (SAR)	Slovak Republic
Colombia	Hungary	Slovenia
Cyprus	Italy	Sweden
Czech Republic	Latvia	Switzerland
Denmark	Lithuania	United States
England	Norway	
Estonia	Poland	

SOURCE: Torney-Purta, J., Lehmann, R., Oswald, H., and Schulz, W. (2001). *Citizenship and Education in Twenty-Eight Countries: Civic Knowledge and Engagement at Age Fourteen*. Amsterdam: The International Association for the Evaluation of Educational Achievement (IEA).

The school questionnaire, completed by the principal, contained questions designed to gather information on the school's general environment, such as size, length of school year, and characteristics of the student body. The school questionnaire also asked questions designed to provide a picture of the way civic education is delivered through the curriculum and school-sponsored activities, as well as the number of staff involved in teaching civic-related subjects. Additionally, a teacher questionnaire was administered. However, because the organization of civic education and the role of civic education teachers in U.S. schools differ from those of many other countries in the study, results from the teacher questionnaire were not analyzed in the U.S. report.

The Civic Achievement of U.S. Students in International Perspective

The civic achievement of students in all 28 countries was measured by a total civic knowledge scale composed of two subscales: a civic content subscale and a civic skills subscale. Civic content refers to knowledge of content, such as characteristics of democracies, and civic skills refer to the interpretative skills needed to understand civic-related information (e.g., the skills needed to make sense of a newspaper article or a political cartoon).

- U.S. ninth-graders scored significantly above the international average on the total civic knowledge scale. Furthermore, in no other country did students significantly outperform U.S. students (figure 2).
- U.S. students' average scores on the civic content subscale did not differ significantly from the international mean. Students in six countries performed better than U.S. students on this subscale (figure 2).
- U.S. students performed significantly higher than the international mean on the civic skills subscale and also performed significantly higher than students in every other country participating in CivEd (figure 2).
- Overall, the results indicate that ninth-grade U.S. students performed well when compared with students in the other 27 participating countries.

The School and Classroom Context of Civic Knowledge

- In 1999, 70 percent of U.S. schools with a ninth grade reported having a ninth-grade civic-related subject requirement.
- In 55 percent of U.S. schools, principals reported that ninth-grade students are required to take 5 to 6 periods a week in civic-related subjects such as social studies, history, or civics.
- Sixty-five percent of students reported studying social studies in school almost every day. However, 12 percent of students reported never or hardly ever studying social studies in school.
- The majority of U.S. ninth-graders typically spent less than 1 hour a week on social studies homework.
- Students who studied social studies in school almost every day had higher scores on all three civic achievement scales than students who studied social studies once or twice a week or even less frequently.

BEST COPY AVAILABLE

Figure 2.—Average civic achievement of ninth-grade students, by scale and nation: 1999

Total civic knowledge

Nation	Average
(none)	
Poland	111
Finland	109
Cyprus	108
Greece	108
Hong Kong (SAR)	107
United States	**106**
Italy	105
Slovak Republic	105
Norway	103
Czech Republic	103
Hungary	102
Australia	102
Slovenia	101
Denmark	100
Germany	100
Russian Federation	100
England	99
Sweden	99
Switzerland	98
Bulgaria	98
Portugal	96
Belgium (French)	95
Estonia	94
Lithuania	94
Romania	92
Latvia	92
Chile	88
Colombia	86
International average	100

Civic knowledge subscales

Civic content

Nation	Average
Poland	112
Greece	109
Finland	108
Cyprus	108
Hong Kong (SAR)	108
Slovak Republic	107
Italy	105
Norway	103
Czech Republic	103
United States	**102**
Hungary	102
Slovenia	102
Russian Federation	102
Denmark	100
Australia	99
Germany	99
Bulgaria	99
Sweden	97
Portugal	97
England	96
Switzerland	96
Belgium (French)	94
Estonia	94
Lithuania	94
Romania	93
Latvia	92
Chile	89
Colombia	89
International average	100

Civic skills

Nation	Average
(none)	
United States	**114**
Finland	110
Cyprus	108
Australia	107
Poland	106
Greece	105
Italy	105
England	105
Hong Kong (SAR)	104
Slovak Republic	103
Norway	103
Czech Republic	102
Sweden	102
Switzerland	102
Hungary	101
Germany	101
Denmark	100
Slovenia	99
Russian Federation	96
Belgium (French)	96
Bulgaria	95
Portugal	95
Estonia	95
Lithuania	93
Latvia	92
Romania	90
Chile	88
Colombia	84
International average	100

☐ Average is significantly higher than the U.S. average.

☐ Average does not differ significantly from the U.S. average.

☐ Average is significantly lower than the U.S. average.

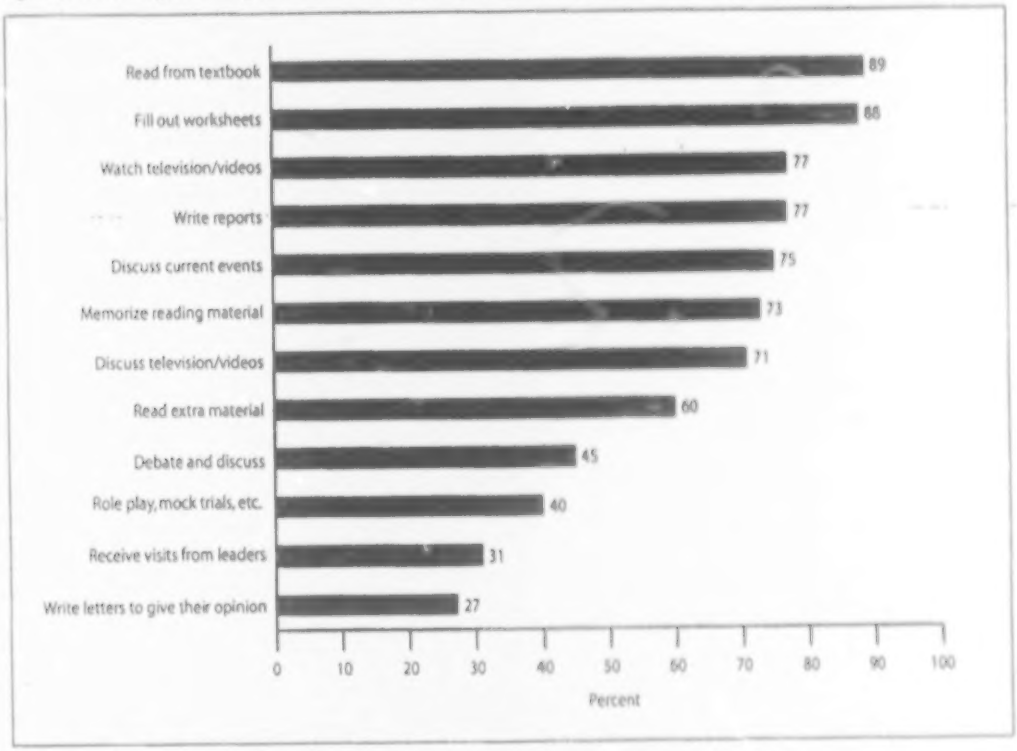
SOURCE: IEA Civic Education Study, Standard Population of 14-Year-Olds Tested in 1999.

- Students in low-poverty schools (with a low percentage of children eligible for the free or reduced-price lunch program) outperformed students in high-poverty schools.
- Students in U.S. schools were more likely to study domestic civic issues than international civic issues.
- U.S. students were more likely to report reading a textbook or filling out worksheets when studying social studies than engaging in activities such as receiving visits from leaders or writing letters to give their opinion (figure 3).
- Eighty-five percent of students reported being encouraged by teachers to make up their own minds about issues, and about two-thirds reported being encouraged by teachers to discuss political or social issues about which people have different opinions.

The Demographic, Socioeconomic, and Out-of-School Context of Civic Knowledge

- White and multiracial students scored higher, on average, than Black and Hispanic students on the content and skills subscales and on the total civic knowledge scale. In addition, Asian students scored higher than Black students on all three civic achievement scales, and higher than Hispanic students on the content subscale (figure 4).
- Female students scored higher, on average, than male students on the skills subscale, but there were no differences between males' and females' average scores on the content subscale or on the total civic knowledge scale (figure 4).
- Performance on the CivEd assessment was positively related to the number of books that students reported

Figure 3.—Percentage of ninth-grade U.S. students reporting doing various activities when they study social studies: 1999



SOURCE: U.S. Department of Education, National Center for Education Statistics, Civic Education Study (CivEd), 1999.

having in their home, as well as to the receipt of a daily newspaper (figure 4).

- Students' civic achievement was also positively related to their parents' educational attainment (figure 4).
- Students born in the United States demonstrated a higher civic knowledge, on average, than foreign-born students.
- Students who had higher expectations for their own continued education also did better on the CivEd assessment.
- Students who reported that they were not absent from school at all during the month prior to the CivEd assessment scored higher, on average, on the civic assessment than students who reported being absent 3 or more days during the month prior to the assessment.
- Students who participated in meetings or activities sponsored by any type of organization, even if they participated only a few times a month, had higher civic knowledge than students who did not participate at all.
- Although participation in extracurricular activities sponsored by a school or community organization was positively related to civic achievement, the frequency of participation was not.
- On average, students who engaged in nonschool activities directly related to academics did better on the CivEd assessment than their peers who did not.

Concepts of Democracy, Citizenship, and Government

- About 90 percent of ninth-grade U.S. students reported that it is good for democracy when everyone has the right to express opinions freely.
- Approximately 80 percent of U.S. students reported that voting in every election and showing respect for government leaders were important factors in being good citizens.

92

Figure 4.—Ninth-grade U.S. students' average civic achievement scores, by selected demographic and home characteristics: 1999

Characteristic	Percent of students	Average score		
		Total civic knowledge	Civic content	Civic skills
Sex				
Male	49.0	105.6	101.7	111.1
Female	51.0	107.5	102.3	116.3
Race/ethnicity				
White	63.4	111.6	106.5	118.4
Black	12.8	92.7	89.8	100.2
Hispanic	13.7	97.1	92.9	106.0
Asian	3.9	109.4	104.5	116.2
Native Hawaiian/Pacific Islander	***	***	***	***
American Indian/Alaska Native	***	***	***	***
More than one race	3.5	109.1	104.4	115.5
Number of books in the home				
0–10	8.6	90.7	88.0	97.4
11–50	21.6	99.0	94.6	108.3
51–100	22.2	104.9	100.2	113.2
101–200	19.6	111.5	106.3	118.6
More than 200	28.0	115.3	110.5	120.1
Receives a daily newspaper				
Yes	58.0	109.7	104.8	116.3
No	42.0	102.5	98.3	110.3
Parents' highest level of education				
Elementary or less	4.7	91.0	88.2	98.1
Some high school	6.1	94.5	90.2	105.1
Finished high school	19.6	101.4	97.0	109.9
Some vocational/technical education	7.8	107.4	102.2	116.1
Some college	27.0	108.9	104.0	116.3
Completed a bachelor's degree	34.9	118.7	113.4	123.1

*** Sample size is insufficient to permit a reliable estimate.

NOTE: Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Civic Education Study (CivEd), 1999.

- Eighty-nine percent of ninth-grade U.S. students thought that it was important for a good citizen to participate in activities to help people in the community.
- Ninth-grade U.S. female students were more likely than their male peers to report social movement–related activities, such as promoting human rights and protecting the environment, as important.
- U.S. students reported average scores higher than the international mean on the importance of conventional citizenship scale and the importance of social movement–related scale but lower than the international mean on the economy-related government responsibilities scale.
- Eighty-four percent of U.S. ninth-graders said that the government should be responsible for keeping prices under control.
- Fifty-nine percent of U.S. ninth-graders said that it was the responsibility of the government to provide an adequate standard of living for the unemployed.
- Asian and Black U.S. ninth-graders were significantly more likely than their White peers to report that the

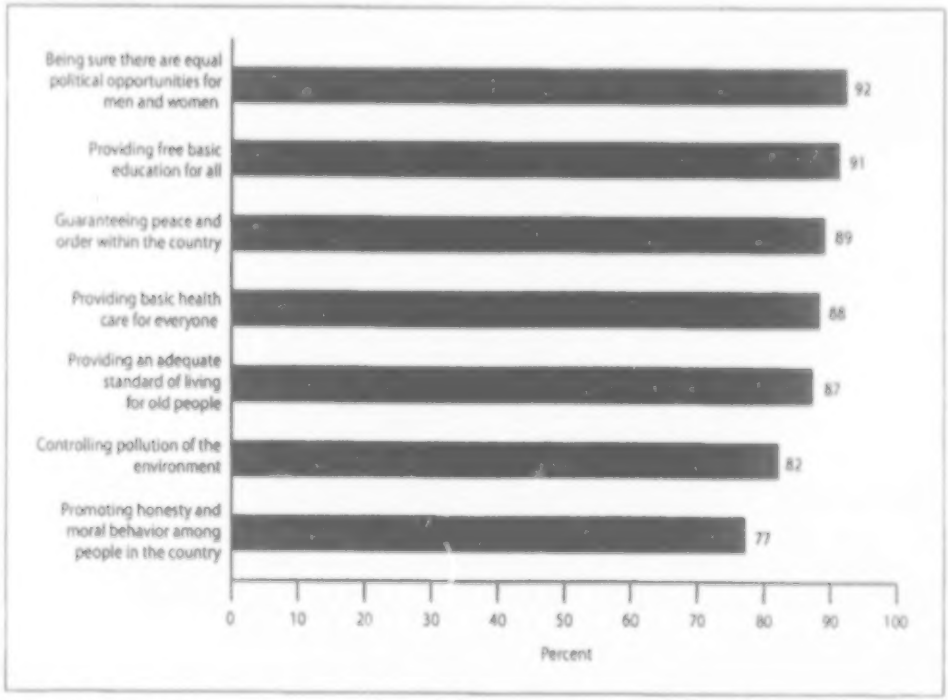
government should be responsible for economy-related issues.

- Between 87 and 92 percent of U.S. ninth-graders said that the government should be responsible for ensuring equal political opportunities for men and women, providing free basic education and health care for all, guaranteeing peace and order within the country, and providing an adequate standard of living for old people (figure 5).

Attitudes of U.S. Students Toward National and International Civic Issues

- A majority of ninth-grade students reported that they trust local and national government institutions in the United States. In contrast, only 35 percent of students reported trusting political parties (figure 6).
- Female ninth-graders were more likely to report that they trust government-related institutions than were their male counterparts.
- Ninety-two percent of U.S. ninth-graders reported that we should always be alert and stop threats from other countries to the political independence of the United States.
- Fifty-three percent of male U.S. ninth-graders agreed that we should stop outsiders from influencing the traditions and cultures of the United States, compared with about 35 percent of females.
- Nine out of 10 students supported women's political rights and agreed that women should run for public office and have the same rights as men. A greater proportion of female ninth-graders supported women's rights than did males.
- Hispanic, Asian, and multiracial ninth-graders reported having more positive attitudes toward rights for immigrants than did their White peers.
- U.S. students reported average scores higher than the international mean on both the support for women's rights scale and the positive attitude toward immigrants' rights scale.

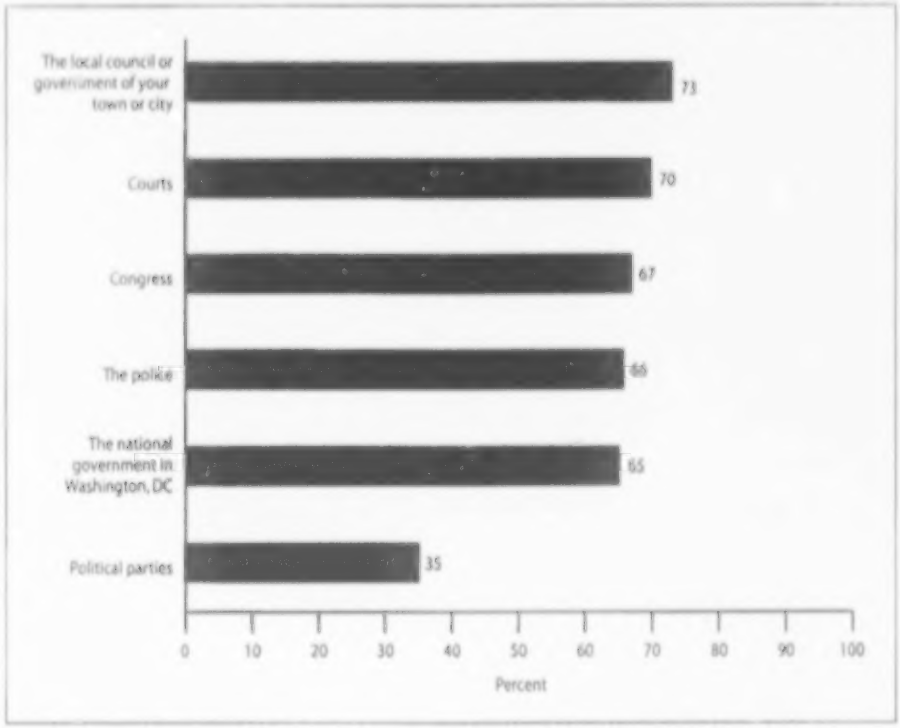
Figure 5.—Percentage of ninth-grade U.S. students reporting that various society-related actions probably or definitely should be the government's responsibility: 1999



SOURCE: U.S. Department of Education, National Center for Education Statistics, Civic Education Study (CivEd), 1999.

BEST COPY AVAILABLE

Figure 6.—Percentage of ninth-grade U.S. students reporting that they trust various institutions most of the time or always: 1999

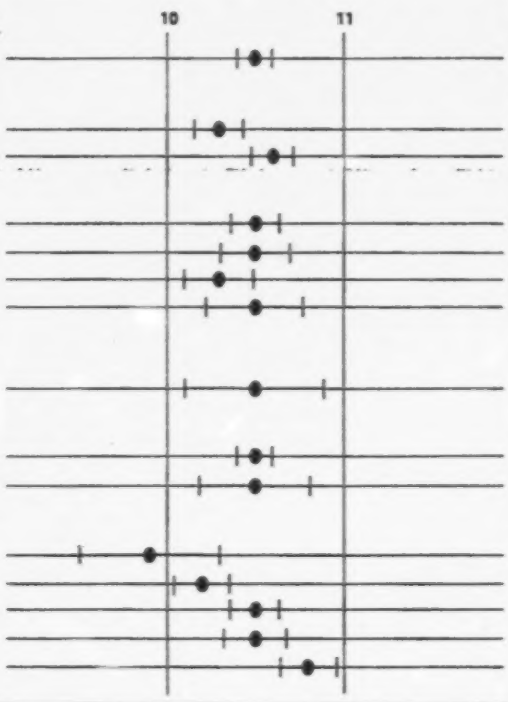


SOURCE: U.S. Department of Education, National Center for Education Statistics, Civic Education Study (CivEd), 1999.

Current and Expected Activities Related to Politics

- Ninth-grade U.S. students reported discussing political issues with teachers and parents, but discussions of U.S. politics were more likely to occur than discussions of international politics.
- Male ninth-grade students were more likely to report discussing international political issues with people their own age than were their female counterparts.
- Students who reported using newspapers as a source of political information were more likely to read about domestic politics than to read about international politics.
- Television was the primary source that ninth-grade U.S. students relied on to obtain information about politics.
- Female and male students as well as U.S.-born and foreign-born students all reported television as their primary source of political news and radio as their least likely source, and with similar levels of frequency.
- U.S. students' average score on the expected participation in political activities scale was higher than the international average.
- Female ninth-grade students were more likely than their male counterparts to expect to be politically active as adults (figure 7).
- Results indicated no differences in expected political participation by race or country of birth (figure 7).
- Students in households containing 100 or fewer books were less likely to report expecting to participate in political life as adults than students in households containing more than 200 books (figure 7).

Figure 7.—Ninth-grade U.S. students' average score on the expected participation in political activities scale,* by selected background characteristics: 1999

Characteristic	Average score	
Total	10.5	(0.05)
Sex		
Male	10.3	(0.07)
Female	10.6	(0.06)
Race/ethnicity		
White	10.5	(0.07)
Black	10.5	(0.10)
Hispanic	10.3	(0.10)
Asian	10.5	(0.14)
Native Hawaiian/Pacific Islander	‡‡‡	‡‡‡
American Indian/Alaska Native	‡‡‡	‡‡‡
More than one race	10.5	(0.20)
Country of birth		
U.S.-born	10.5	(0.05)
Foreign-born	10.5	(0.16)
Number of books in the home		
0–10	9.9	(0.20)
11–50	10.2	(0.08)
51–100	10.5	(0.07)
101–200	10.5	(0.09)
More than 200	10.8	(0.08)

*Expected participation in political activities was measured by a scale based on student responses to three items. These items asked whether students expected to participate in the following three activities as adults: join a political party, write letters to a newspaper about social or political concerns, and be a candidate for a local or city office.

( ) Standard errors appear in parentheses.

⊢⊣ Mean (±2 standard errors).

‡‡‡ Sample size is insufficient to permit a reliable estimate.

NOTE: The international mean for this scale is 10.0. The U.S. mean is significantly higher than the international mean. Percentages may not add to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Civic Education Study (CivEd), 1999.

Data source: Civic Education Study (CivEd), 1999.

For technical information, see the complete report:

Baldi, S., Perie, M., Skidmore, D., Greenberg, E., and Hahn, C. (2001). *What Democracy Means to Ninth-Graders: U.S. Results From the International IEA Civic Education Study* (NCES 2001–096).

Author affiliations: S. Baldi, M. Perie, D. Skidmore, and E. Greenberg, American Institutes for Research; C. Hahn, Emory University.

For questions about content, contact Dawn Nelson *(dawn.nelson@ed.gov)*.

To obtain the complete report (NCES 2001–096), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov)*, or contact GPO (202–512–1800).

BEST COPY AVAILABLE

Monetary Incentives for Low-Stakes Tests
Harold F. O'Neil, Jr., Jamal Abedi, Charlotte Lee, Judy Miyoshi, and Ann Mastergeorge 97

1999 Customer Satisfaction Survey Report: How Do We Measure Up?
Sameena Salvucci, Albert C.E. Parker, R. William Cash, and Lori Thurgood 101

Monetary Incentives

Monetary Incentives for Low-Stakes Tests

Harold F. O'Neil, Jr., Jamal Abedi, Charlotte Lee, Judy Miyoshi, and Ann Mastergeorge

This article was originally published as the Executive Summary of the Research and Development Report of the same name. The sample survey data are from the NCES Monetary Incentives for Low-Stakes Tests studies.

Research and Development Reports are intended to

- share studies and research that are developmental in nature;
- share results of studies that are on the cutting edge of methodological developments;
- participate in discussions of emerging issues of interest to researchers.

These reports present results or discussion that do not reach definitive conclusions at this point in time, either because the data are tentative, the methodology is new and developing, or the topic is one on which there are divergent views. Therefore, the techniques and inferences made from the data are tentative and are subject to revision.

Introduction

Recent information in the 1990s on international assessments (e.g., the Third International Mathematics and Science Study, or TIMSS) indicates that 12th-grade students in the United States are doing extremely poorly on such assessments compared with their peers in other countries (Takahira et al. 1998). Similarly, many 12th-grade students are doing poorly on the National Assessment of Educational Progress (NAEP). On such assessments, in almost all cases, U.S. 12th-grade students perform relatively more poorly than U.S. 8th-grade students. For example, in TIMSS, 12th-grade students are below the international average whereas 8th-grade students are at the international average.

These poor results are usually attributed to cognitive factors related to students' opportunities to learn, teachers' lack of professional preparation, etc. However, a partial explanation for these results may be motivational. Because the low-stakes (for students) tests were administered late in these 12th-graders' final year in high school, the timing may have negatively affected motivation, and thus performance. This phenomenon has been labeled "senioritis." For the high school senior going into the world of work or on to postsecondary education, tests like TIMSS are clearly low stakes. Thus, one of the major questions about these tests concerns the possible impact of motivational factors on the results. If students are not motivated to perform well on low-stakes tests, then the results may underestimate what

BEST COPY AVAILABL

students could do if they gave these assessments their best effort.

Research Background and Methodology

The basic approach of this research was to provide a sufficient monetary incentive to maximize student effort and therefore increase performance. Such an incentive was expected to stimulate a 0.5 standard deviation increase in performance. The results of this research will not generalize, without additional research, to either TIMSS or NAEP. Further, the results will not generalize to the impact of motivation variables (e.g., effort, self-efficacy)[1] on the teaching and learning of math. However, it was expected that these results would constitute a proof of concept of the importance of manipulating motivation in low-stakes assessments for 12th-graders.

Prior research

Promising results were provided by prior NAEP motivation research sponsored by the National Assessment Governing Board (NAGB) and by the National Center for Education Statistics (NCES) of the Office of Educational Research and Improvement (OERI). In that research, it was hypothesized that the incentives would increase effort, which, along with prior knowledge, would improve performance. The effective incentive in this earlier study was money. In the study (O'Neil et al. 1992), various incentives (money, task, ego, standard NAEP instructions) were manipulated for 8th- and 12th-grade samples of students of various ethnicities (White, Black, Hispanic, and Asian/Pacific Islander).

In general, only the money incentive worked in the eighth grade. The results showed, in the best case, that the money incentive was effective for a subsample of the eighth-grade students (those who remembered their incentive/treatment group) with easy and medium-difficulty items. With respect to item difficulty results, because the motivational effect was at test time, it was not expected that this increased effort would improve performance on hard items, because students did not know the content. With respect to remembering one's treatment group, presumably if one did not remember the incentive (money), then one would not increase one's effort (and thus performance). However, no incentives were effective for 12th-grade students, even those who remembered their treatment group. The lack of effect for 12th-graders was hypothesized to be because the amount of money ($1.00 per item) was not large enough for 12th-graders and, further, many 12th-graders did not believe they would get the money.

Current approach

The approach for the current investigation with 12th-graders consisted of manipulating the amount of money per item correct so as to increase the motivational effect and thus increase performance. The amount of money given per item correct was either $0 (as in a standard low-stakes administration, e.g., TIMSS) or $10 per item correct (which was expected to be effective). The incentive group was compared with a group receiving standard low-stakes TIMSS instructions. Consistent with the prior NAEP study, information on effort, self-efficacy, and worry was also collected. For the current assessment, the released TIMSS math literacy scale items were used. This set of items included both multiple-choice and free-response items.

It was hypothesized that students receiving $10 per item correct would perform significantly higher in math than those who were not receiving any monetary incentive (the control group). Such students would also exhibit higher effort and self-efficacy but less worry than control group participants. In general, overall anxiety levels were expected to be low given the low-stakes nature of the test.

Design and samples

This investigation included a focus group study, a pilot study, a main study, and a supplementary study with Advanced Placement (AP) students in mathematics (called the AP study). In the focus group study, various levels of incentives were explored. This research is documented in Mastergeorge (1999). Parents and students who participated in the focus groups suggested that $5 to $10 per item correct would provide enough motivation for students in grade 12 to work harder on math test items. Based on these findings, in the present investigation students were offered $10 per item correct to find out whether their performance on the selected math items could be increased under such a high-stakes testing condition. The performance of students receiving $10 per item correct was then compared with the performance of students who responded to the same set of items with no monetary incentive.

A total of 725 students participated in the pilot, main, and AP studies. There were 144 students in the pilot study, 415 students in the main study, and 166 students in the AP study. For the pilot, main, and AP studies, students were selected from 23 different schools (5 schools in the pilot

[1] Self-efficacy refers to a student's belief in his or her ability to perform a task.

BEST COPY AVAILABLE

study, 9 schools in the main study, and 9 schools in the AP study) from southern California school districts in different locations. These schools had different demographics and different levels of overall student performance. However, the high non-English language background of the sample limits generalizing the findings. Findings should be interpreted in light of this caution.

Following the focus group study was the pilot study. The purpose of the pilot study was to test design issues, examine the accuracy and language of the instruments, and resolve logistical problems. The results of the pilot study helped in refining the instruments and modifying the design. The main study and AP study were then conducted.

Results and Discussion

For an approximately 1-hour testing session, the average student in the incentive condition in the main study received $100 ($80 for an average of 7.96 items answered correctly and $20 for the two "easy" test items). In the AP study, the average student received $200. Such incentives were assumed to be motivational for the 12th-graders in our samples. However, the results of the main and AP studies showed no significant difference between the performance of students in the incentive and control groups. Statistically, there was no "main effect" of the incentive treatment. However, in the main study there was a complex interaction between three variables: treatment group, sex, and test booklet.[3] After students were divided into subgroups based on these variables, however, none of the differences in their mean scores by subgroup were statistically significant. Thus, this interaction was conservatively interpreted as not supporting the major hypothesis. Further, the results of the AP study also did not support the major hypothesis. Although the total number of students in the main study was 393 after excluding students with incomplete data, the numbers became smaller when students were divided into subgroups by the levels of independent variables such as sex, test booklet, and treatment group. For some of the analyses, the number of students was not sufficient to detect a significant difference, even when the difference appeared relatively large. However, the number of students in both the main study sample and the AP study was sufficient to have detected a main effect for the incentive treatment.

There was a great deal of consistency in the data in both the main and AP studies. For example, males performed significantly better than females in both studies, which was expected, since local southern California samples consistently show differences between male and female performance on math tests. Although with the national TIMSS sample (Takahira et al. 1998), there were no significant differences by sex, such differences were found with the local southern California samples. Students in both the main study and the AP study reported significantly more effort in the incentive condition than in the control condition. Finally, in both studies self-efficacy and effort were positively related. These latter results make theoretical sense, as Bandura (1986, 1993, 1997) would predict that higher levels of self-efficacy should lead to higher levels of effort.

It was also predicted, based on the prior NAEP research, that the incentive condition should result in higher effort. In both the main and AP studies, students in the incentive group were found to have significantly higher effort than students in the control group. In turn, this increased effort should have resulted in better math performance. So, why was there no significant main effect of the treatment on math performance, given that there was a main effect of the treatment on effort? The major reason suggested was the lack of relationship between self-reported effort and math achievement. Unexpectedly, for both the main and AP studies, self-reported effort was not significantly related to math performance (e.g., $r = .007$ in the AP study). With respect to effort, the research literature and the previous NAEP research using the same measures indicate that the relationship should be positive (i.e., higher effort should lead to better performance). Not surprisingly, such findings are puzzling.

There was not an issue of insufficient time to complete this test, given that the number of not-reached items was very low, indicating that students had sufficient time to complete almost all items on the test. Further, there were few items omitted in either study. The low number of not-reached and omitted items clearly indicates that students had sufficient time to complete the test. Thus, this set of items clearly constituted a power test, not a speed test. In the main study, the mean score was 7.96 out of 24 possible points (20 items, with a few extended-response items getting 2 possible maximum points). For the AP study, the mean was 17.95 out of 24 possible points (same test as the main study). There was no ceiling on the number of correctly answered items for which students would be paid.

[3]Two versions of the test booklet were used to minimize cheating.

To better understand the puzzling results of this investigation, the obvious next step is to replicate the investigation with samples more representative of U.S. students generally or in groups with very different compositions. These studies should be supplemented by a series of focus groups and cognitive laboratory approaches.

Conclusion

In summary, effort was not related to performance. The conclusion for this set of studies is that a strong monetary incentive did not increase math performance on a set of TIMSS released math items with local southern California samples of convenience that included a high proportion of students with a non-English language background. Further, the inability to find motivational effects—despite a strong incentive, random assignment (with equivalence on background characteristics), tests of high- and low-performing students, and elimination of cases where students could not remember their incentive or treatment group—is quite compelling. It raises some fundamental questions about previous assumptions made about the motivational effect on test performance. It appears that factors in addition to motivation are coming into play. The authors believe that there is a senioritis effect, but that understanding its specific motivational effect on test performance and its amelioration awaits future research.

References

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1993). Perceived Self-Efficacy in Cognitive Development and Functioning. *Educational Psychologist, 28*(2): 117–148.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: Freeman.

Mastergeorge, A. (1999, June). *Focus Groups on Motivational Incentives for Low-Stakes Tests With Senior High School Students and Their Parents*. Report to AIR/ESSI. Los Angeles: University of California, Center for Research on Evaluation, Standards, and Student Testing.

O'Neil, H.F., Jr., Sugrue, B., Abedi, J., Baker, E.L., and Golan, S. (1992). *Final Report of Experimental Studies on Motivation and NAEP Test Performance*. Report to NCES, Grant #RS90159001. Los Angeles: University of California, Center for Research on Evaluation, Standards, and Student Testing.

Takahira, S., Gonzales, P., Frase, M., and Salganik, L.H. (1998). *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context* (NCES 98–049). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Data source: The NCES Monetary Incentives for Low-Stakes Tests studies, 2001.

For technical information, see the complete report:

O'Neil, H.F., Jr., Abedi, J., Lee, C., Miyoshi, J., and Mastergeorge, A. (2001). *Monetary Incentives for Low-Stakes Tests* (NCES 2001–024).

Author affiliations: H.F. O'Neil, Jr., University of Southern California, National Center for Research on Evaluation, Standards, and Student Testing (CRESST); J. Abedi, C. Lee, J. Miyoshi, and A. Mastergeorge, University of California at Los Angeles/CRESST.

For questions about content, contact Val Plisko *(vplisko@ed.gov)*.

To obtain the complete report (NCES 2001–024), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov)*.

100 BEST COPY AVAILABLE

Customer Satisfaction Survey

1999 Customer Satisfaction Survey Report: How Do We Measure Up?

Sameena Salvucci, Albert C.E. Parker, R. William Cash, and Lori Thurgood

This article was originally published as the Executive Summary of the Technical Report of the same name. The sample survey data are from the NCES Customer Satisfaction Survey.

Introduction

In 1999, the U.S. Department of Education's National Center for Education Statistics (NCES) surveyed a targeted sample of its current and potential customers to determine their levels of satisfaction and needs related to

- NCES publications;
- NCES databases and user tools; and
- NCES services such as ordering publications or databases, information services, and the NCES Web Site.

This survey focused more closely than customer satisfaction surveys conducted in 1997 and 1996 on specific NCES products and services, providing NCES program managers with information specific to their programs. Also, for the first time, the customer satisfaction survey was administered to half of the sample using the Internet.

This report summarizes the results of the 1999 Customer Satisfaction Survey and also compares results from the 1999 and 1997 surveys for the core customer groups—policymakers and academic researchers—that were sampled in both years. All satisfaction results reported apply to those customers who indicated that they had used the product or service in question and all percentages reported are based on weighted data.

Target Population

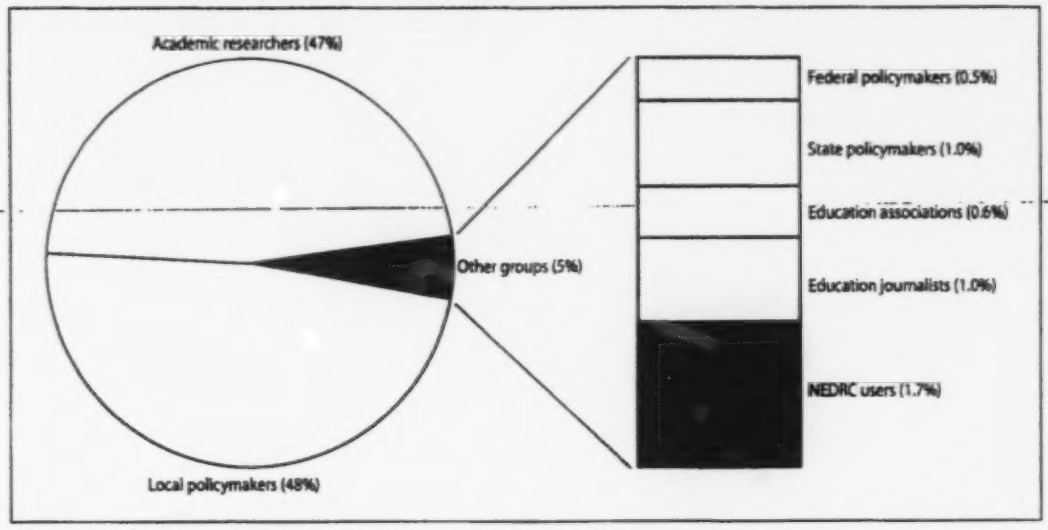
The 1999 Customer Satisfaction Survey does not reflect—nor was it intended to reflect—the total NCES customer base or the views of all its customers. Rather, it focuses on responses of specific customer groups whose use of NCES products and services can have an important effect on the "condition and progress of education." In 1999, NCES targeted a population made up of the following seven customer groups, the distribution of which is shown in figure A:

- *federal policymakers* from the U.S. Department of Education (Assistant and Under Secretaries and other staff), National Science Foundation, Office of Management and Budget, Congressional Research Service, Congressional Budget Office, General Accounting Office, Senate and House committees, and Presidential staff;
- *state policymakers* from the National Conference of State Legislators, Council of Chief State School Officers, State Higher Education Executive and Finance Officers, Chief Officers of State Library Agencies, education policy advisors to state governors, and education assessment directors in state departments of education;
- *local policymakers* from elementary/secondary school districts or postsecondary institutions—including school district superintendents and higher education administrators such as directors of institutional research—or other school district or institutional staff members who used educational data for policymaking purposes;
- *academic researchers*, identified as directors of Office of Educational Research and Improvement centers and regional laboratories, and members of the American Educational Research Association (AERA);
- *education associations' policy staff*, represented by one education data user from the administrative office of each trade or professional association related to education;
- *education journalists*, including newspaper reporters who were members of the Education Writers Association and some additional education journalists identified by the U.S. Department of Education's Office of Public Affairs; and
- *National Education Data Resource Center (NEDRC) users*, consisting of people who had requested NCES information because they did not have the appropriate skills or facilities to take advantage of the available NCES databases and user tools.

From a list of more than 40,000 individuals in the seven customer groups, NCES sent mail or Internet questionnaires to 3,284, of whom 3,256 were found to be eligible.[1] All who had not responded after about 7 weeks were called and asked to complete a telephone interview. With 2,563 respondents, the final response rate was 79 percent.

[1] A person in the sample could be ineligible for any of the following reasons: (1) death; (2) retirement without replacement (if a member of the sample retired but was replaced, the replacement became the sample member, except in the case of AERA members in the academic researcher group); and (3) closure of the institution that the person represented (higher education subgroup of the local policymaker group).

Figure A.—Distribution of the target population by customer group: 1999



NOTE: Detail may not add to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 Customer Satisfaction Survey.

Customer Profile

A majority of respondents had *heard of* NCES and had *used* its products and services (72 percent and 61 percent, respectively) (figure B). The level of awareness of NCES and use of its products and services varied across customer groups. The following customer groups were the four groups that were most likely both to have heard of NCES and to have used its products or services:

- federal policymakers (98 percent and 91 percent, respectively);
- state policymakers (91 percent and 83 percent, respectively);
- education associations (89 percent and 84 percent, respectively); and
- NEDRC users (84 percent and 87 percent, respectively).

NCES users tended to have used NCES products and services *recently*; 72 percent, overall, had used them in the past 12 months, with such recent use highest among federal policymakers, state policymakers, and education association users (above 90 percent).

The uses made of NCES products and services covered many areas. The predominant uses that NCES users cited were research and analysis (82 percent), general information (77 percent), and planning (53 percent).

Publications

Although, overall, 45 percent of the respondents had used NCES publications in the past 2 years, the level of use varied among customer groups. In the past 2 years, the following three groups were the most likely to have used NCES publications:

- federal policymakers (82 percent);
- state policymakers (73 percent); and
- education associations (73 percent).

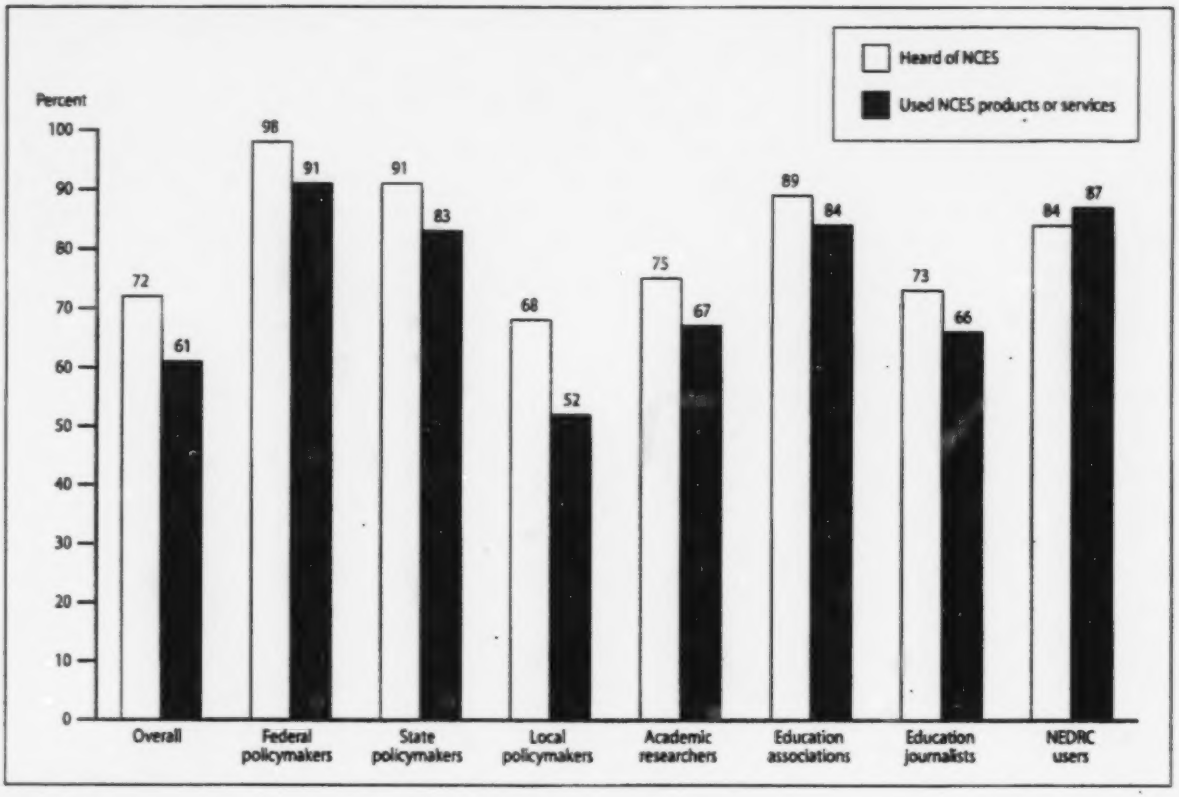
The percentage of respondents who were *unaware* of NCES publications was substantial (32 percent), and this percentage was not insignificant even among two of the three groups with the highest rate of usage of publications:

- state policymakers (13 percent); and
- education associations (14 percent).

More than a third of NCES publication users obtained publications through the Internet (43 percent), whereas a majority of the users indicated they used traditionally-bound-and-printed publications (76 percent).

BEST COPY AVAILABLE

Figure B.—Awareness of NCES and use of its products or services, by customer group: 1999



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999 Customer Satisfaction Survey.

NCES *statistical compendia* received very high marks, with over 90 percent of customers reporting that they were satisfied or very satisfied with two out of the three compendia:

- *The Condition of Education* (93 percent);
- *Digest of Education Statistics* (93 percent); and
- *Projections of Education Statistics* (88 percent).

Customers also reported a high level of satisfaction (at least 80 percent) with publications from all NCES program areas except the library surveys publications (65 percent).

No more than 5 percent of users reported dissatisfaction with such publication aspects as overall quality, comprehensiveness, ease of understanding, relevance of information, and accuracy. However, 15 percent of users reported dissatisfaction with timeliness.

Databases and User Tools

A majority of respondents were *unaware* of NCES databases or user tools (58 percent). Although, overall, only 12 percent of respondents had used NCES databases or user tools, the level of use among those who were aware of NCES databases and user tools was 29 percent.

No one database or user tool was used by more than 5 percent of customers during the past 2 years. The National Assessment of Educational Progress (NAEP) database was used most often (5 percent) and the library surveys databases were used least often (1 percent).

Customers employing specific NCES *user tools* such as the Electronic Code Book (ECB) and the Data Analysis System (DAS) gave these tools satisfaction ratings ranging from 84 to 92 percent. The percentage of users satisfied with the specific NCES *databases* ranged from 74 to 91 percent.

Users were most dissatisfied with the timeliness of the database release, ease of access, and ease of use of these databases and user tools (20, 16, and 15 percent, respectively).

Services

As with databases and user tools, a majority of respondents were *unaware* of the availability of the range of NCES services (54 percent). Although, overall, only 22 percent of respondents had used NCES services, the level of use among those who were aware of these services was 47 percent. Among those who were aware, the percentage of use was highest among NEDRC users (93 percent), education associations (74 percent), and federal policymakers (71 percent).

Most users of NCES services (82 percent) had used these services occasionally in the past 2 years, while the rest had used them more often (14 percent monthly and 4 percent weekly). Users were most likely to use the following NCES services:

- visiting the NCES Web Site (15 percent);
- requesting information from NCES staff (13 percent); and
- ordering NCES materials through ED Pubs (11 percent).

Satisfaction levels with all services were high, ranging from 84 to 96 percent. Customers also reported a high level of satisfaction (at least 80 percent) with all listed aspects of NCES services except the handling of complaints (60 percent).

Comparison of Results From the 1997 and 1999 Surveys

NCES targeted the same four core customer groups—federal, state, and local policymakers and academic researchers—in 1997 and 1999. Comparing results from these four groups shows that, overall, there were no profound changes in customers' responses from 1997 to 1999. (Note that since the comparisons use only responses from the four core groups out of the seven groups surveyed in 1999, the 1999 percentages presented in this section are different from the 1999 percentages cited above.)

Publications

More than 85 percent of customers reported being satisfied or very satisfied with NCES compendia publications in both 1997 and 1999. Although satisfaction with the *Digest of Education Statistics* remained high among state policymakers, there was a *decrease* in satisfaction between 1997 and 1999 (from 97 percent to 92 percent).

Also, between 79 and 93 percent of customers reported being satisfied or very satisfied with the following program-specific NCES publications in both years:

- educational assessment publications;
- national longitudinal studies publications;
- elementary and secondary education publications; and
- postsecondary publications.

There were some specific findings that may merit further consideration. For example, with regard to the program-specific publications, the percentage of users satisfied or very satisfied

- *increased* by 8 percentage points for the national longitudinal studies publications between 1997 and 1999 (from 81 percent to 89 percent); and
- *was below 75 percent* in both 1997 and 1999 for the library publications (72 percent and 64 percent, respectively).

With regard to aspects of NCES publications, similar percentages of customers (around 80 to 90 percent) reported being satisfied or very satisfied in both 1997 and 1999 with five of the six aspects (overall quality, relevance, accuracy, ease of understanding, and comprehensiveness). However, a sixth aspect, timeliness, showed a notable improvement in customers' levels of satisfaction. The percentage of users who were satisfied or very satisfied with timeliness *increased* from 72 percent in 1997 to 78 percent in 1999. Also, the aspect of overall quality was consistently rated the highest among the six aspects in both years (90 percent in 1997 and 93 percent in 1999).

Databases[1]

In both 1997 and 1999, about 90 percent of customers reported being satisfied or very satisfied with the NCES elementary and secondary education databases and assessment database that were asked about in both years. The percentage of customers satisfied with databases in the

[1]Note that the 1999 Customer Satisfaction Survey asked respondents about use and levels of satisfaction with aspects of NCES databases *and user tools*, while the 1997 survey questions referred only to NCES data files.

BEST COPY AVAILABLE

longitudinal, postsecondary, and library studies areas ranged between 72 and 91 percent in both years.[3]

With regard to aspects of NCES databases, similar percentages of customers (between 69 and 87 percent) reported being satisfied or very satisfied in both 1997 and 1999 with four of the six aspects of NCES databases (accuracy of database, database documentation, ease of use, and comprehensiveness of database). However, two aspects, ease of access and timeliness, showed a notable improvement in customers' levels of satisfaction between 1997 and 1999. The percentage of users who were satisfied or very satisfied *increased*

- by 18 percentage points for ease of access of databases (from 55 percent to 73 percent); and
- by 15 percentage points for timeliness of databases (from 52 percent to 67 percent).

Also, the aspect of comprehensiveness of database was consistently rated the highest among the six aspects in both years (81 percent in 1997 and 87 percent in 1999).

Services

Generally, around 90 to 95 percent of customers reported being satisfied or very satisfied with the following NCES services:

- National Education Data Resource Center (NEDRC);
- Department of Education's toll-free number; and
- NCES Web Site.

With regard to the seven aspects of NCES services that were asked about in both 1997 and 1999, similar percentages of customers (83 to 93 percent) reported being satisfied or very satisfied in both years with four aspects (extent to which the information met your needs, staff expertise, time needed to reach knowledgeable staff, courtesy of staff). However, the percentage of users who were satisfied or very satisfied differed between 1997 and 1999 for the other three aspects. The percentage satisfied or very satisfied

- *increased* by 4 percentage points for speed with which information was received (from 89 percent in 1997 to 93 percent in 1999);
- *decreased* by 5 percentage points for ease of obtaining information (from 92 percent in 1997 to 87 percent in 1999); and
- *decreased* by 15 percentage points for handling of complaints (from 75 percent in 1997 to 60 percent in 1999).

Also, the aspect of extent to which information met customer needs was consistently rated the highest among the seven aspects in both years (92 percent in 1997 and 93 percent in 1999).

Awareness of how to contact NCES

The percentage of respondents aware of how to contact NCES *increased* from 34 percent in 1997 to 47 percent in 1999. This reflected increased percentages of awareness among state policymakers (from 69 percent in 1997 to 77 percent in 1999) and among local policymakers (from 32 percent in 1997 to 44 percent in 1999).

[3] Altogether, 13 NCES databases were included in both the 1997 and 1999 surveys. They were as follows: three elementary and secondary education databases—the National Household Education Survey (NHES), the Schools and Staffing Survey (SASS), and the Common Core of Data (CCD); one assessment database—the National Assessment of Educational Progress (NAEP); three longitudinal databases—the Baccalaureate and Beyond Longitudinal Study (B&B), the Beginning Postsecondary Students Longitudinal Study (BPS), and the National Education Longitudinal Study of 1988 Eighth-Graders (NELS:88); three postsecondary databases—the National Study of Postsecondary Faculty (NSOPF), the National Postsecondary Student Aid Study (NPSAS), and the Integrated Postsecondary Education Data System (IPEDS); and three library studies databases—the School Library Survey (SLS), the Public Libraries Survey (PLS), and the Academic Libraries Survey (ALS).

Data source: The NCES 1997 and 1999 Customer Satisfaction Surveys.

For technical information, see the complete report:

Salvucci, S., Parker, A.C.E., Cash, R.W., and Thurgood, L. (2001). *1999 Customer Satisfaction Survey Report: How Do We Measure Up?* (NCES 2001–601).

Author affiliations: S. Salvucci, A.C.E. Parker, R.W. Cash, and L. Thurgood, Synectics for Management Decisions, Inc.

For questions about content, contact Arnold Goldstein *(arnold.goldstein@ed.gov)* or Samuel Peng *(samuel.peng@ed.gov)*.

To obtain the complete report (NCES 2001–601), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov)*.

Other Publications

The Nation's Report Card: Fourth-Grade Reading Highlights 2000
Shari L. Santapau 107

Highlights of U.S. Results From the International IEA Civic Education Study (CivEd)
Stéphane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn 108

Public School Finance Programs of the United States and Canada: 1998–99
Catherine C. Sielke, John Dayton, C. Thomas Holmes, and Anne L. Jefferson (compilers) 108

The Condition of Education: 2000 in Brief
Jeanne H. Nathanson 108

Funding Opportunities

The AERA Grants Program 109

The NAEP Secondary Analysis Grant Program 109

Other Publications

The Nation's Report Card: Fourth-Grade Reading Highlights 2000

Shari L. Santapau

The National Assessment of Educational Progress (NAEP), known as the "Nation's Report Card," is authorized by Congress, administered by NCES, and overseen by the National Assessment Governing Board (NAGB). In 2000, NAEP administered a reading assessment to a nationally representative sample of fourth-grade students. The results of the assessment provide a snapshot of American fourth-graders' achievement in reading.

This 12-page publication uses a tabloid format to present highlights from the 2000 reading assessment. It describes the assessment content, presents major findings, and provides information about students' school and home experiences related to literacy. This publication also includes sample test questions and examples of student responses.

Author affiliation: S.L. Santapau, Educational Testing Service.

For questions about content, contact Sheida White *(sheida.white@ed.gov).*

To obtain this publication (NCES 2001–513), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

BEST COPY AVAILABLE

Highlights of U.S. Results From the International IEA Civic Education Study (CivEd)

Stéphane Baldi, Marianne Perie, Dan Skidmore, Elizabeth Greenberg, and Carole Hahn

In 1999, the United States participated with 27 other countries in the Civic Education Study (CivEd), conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA). The results of this international assessment provide information about the civic knowledge and skills of 14-year-old students and their attitudes toward democracy and citizenship.

In the United States, CivEd was sponsored by NCES and administered to a nationally representative sample of 2,811 ninth-graders across 124 public and private schools. This 10-page brochure presents highlights of the U.S. results, including the performance of U.S. students relative to their counterparts in other countries, the school and classroom context of civic education in the United States, attitudes of U.S. students toward various civic issues, and characteristics of U.S. students that relate to their civic knowledge and attitudes.

Author affiliations: S. Baldi, M. Perie, D. Skidmore, and E. Greenberg, American Institutes for Research; C. Hahn, Emory University.

For questions about content, contact Dawn D. Nelson *(dawn.nelson@ed.gov).*

To obtain this brochure (NCES 2001–107), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

Public School Finance Programs of the United States and Canada: 1998–99

Catherine C. Sielke, John Dayton, C. Thomas Holmes, and Anne L. Jefferson (compilers)

The seventh in a series of reports describing public school finance programs, the current report was undertaken by NCES in partnership with the American Education Finance Association and the National Education Association. Each chapter consists of a paper that describes the system used in an individual U.S. state or Canadian province or territory to finance local school districts in the 1998–99 school year. The views expressed are those of the authors, and no official support by the U.S. Department of Education is intended or should be inferred.

The information in this report is designed to be useful to the education finance research community and fiscal policy analysts. Because of the report's length—almost 1,300 pages—it is available only on the NCES Web Site and on a CD-ROM. In addition to downloading PDF files, users can search the report for specific information. This search capability should make this edition of the report even more accessible and user-friendly than previous editions.

Compiler affiliations: C.C. Sielke, J. Dayton, and C.T. Holmes, University of Georgia; A.L. Jefferson, University of Ottawa.

For questions about content, contact William J. Fowler, Jr. *(william.fowler@ed.gov).*

To obtain this product (NCES 2001–309), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

The Condition of Education: 2000 in Brief

Jeanne H. Nathanson

Each year, NCES publishes *The Condition of Education*, a congressionally mandated report that focuses on indicators of the status and progress of education in the United States. The 2000 edition contains 67 indicators, grouped into sections on participation in education, learner outcomes, student effort and academic progress, quality of elementary and secondary educational environments, the context of postsecondary education, and societal support for learning.

The Condition of Education: 2000 in Brief presents highlights from the full report in a small, easy-to-use format. It contains abbreviated versions of 30 indicators, including graphs as well as descriptive text.

Author affiliation: J.H. Nathanson, Office of Elementary and Secondary Education, U.S. Department of Education.

For questions about this brochure, contact Thomas D. Snyder *(tom.snyder@ed.gov).*

To obtain this brochure (NCES 2001–045), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

BEST COPY AVAILABLE

Funding Opportunities

The AERA Grants Program

Jointly funded by the National Science Foundation (NSF), NCES, and the Office of Educational Research and Improvement (OERI), this training and research program is administered by the American Educational Research Association (AERA). The program has four major elements: a research grants program, a dissertation grants program, a fellows program, and a training institute. The program is intended to enhance the capability of the U.S. research community to use large-scale data sets, specifically those of the NSF and NCES, to conduct studies that are relevant to educational policy and practice, and to strengthen communications between the educational research community and government staff.

Applications for this program may be submitted at any time. The application review board meets three times per year.

For more information, contact Edith McArthur *(edith.mcarthur@ed.gov)* or visit the AERA Grants Program Web Site *(http://www.aera.net/grantsprogram)*.

The NAEP Secondary Analysis Grant Program

The NAEP Secondary Analysis Grant Program was developed to encourage education researchers to conduct secondary analysis studies using data from the National Assessment of Educational Progress (NAEP) and the NAEP High School Transcript Studies. This program is open to all public or private organizations and consortia of organizations. The program is typically announced annually, in the late fall, in the *Federal Register*. Grants awarded under this program run from 12 to 18 months and awards range from $15,000 to $100,000.

For more information, contact Alex Sedlacek *(alex.sedlacek@ed.gov)*.

Customer Survey of OERI Publication Users

To help us improve future editions of this publication and give you better customer service, we would appreciate your comments on this survey form. Please check the appropriate box(es) below for each question. Responses will be kept completely confidential. You may return the survey by mail or FAX. It can be folded and taped closed to allow mailing to the address listed on the reverse side of this form, or it can be returned by FAX to 202–219–1321. **Many thanks for your customer feedback—it is very important to us!**

1a. Name of publication Education Statistics Quarterly

1b. Publication number NCES 2001–605

1c. Author name Barbara Marenus

2. How did you receive a copy of this publication?

- ❑ Bought it
- ❑ Borrowed it
- ❑ Mailing list membership
- ❑ Telephone request
- ❑ Internet request
- ❑ Other (please describe)

3. Was this publication easy to get?

❑ Very ❑ Somewhat ❑ Not at all

4. How did you find out about this and other OERI publications? (Check all that apply.)

- ❑ Conferences
- ❑ Journal articles
- ❑ Teacher/educator
- ❑ Professional associations
- ❑ Internet (WWW)
- ❑ Publication announcement
- ❑ Received in mail
- ❑ OERI staff contact

5. For what purposes did you use this OERI publication? (Check all that apply.)

- ❑ Planning
- ❑ Policy or legislation
- ❑ Administrative decisions
- ❑ Teaching, class material
- ❑ Research/analysis
- ❑ General information
- ❑ Writing news articles, TV or radio material
- ❑ Marketing, sales, or promotion
- ❑ Other (please describe)

6. Did the publication help you accomplish whatever you needed it for?

❑ Yes ❑ No ❑ Partially

7. What is your occupation?

❑ Parent ❑ Teacher ❑ Administrator
❑ Librarian ❑ Researcher ❑ Statistician
❑ Journalist/writer ❑ Policy Analyst ❑ Student
❑ Program Planner
❑ Other (please specify)

8. How could this OERI publication (or other OERI publications) better meet your needs? (Check all that apply.)

- ❑ More important topics in education
- ❑ More timely release of data
- ❑ More text introductions to each section
- ❑ More research statistics
- ❑ Shorter reports (less than 10 pages)
- ❑ Other (please describe)

9. Overall, how satisfied are you with this product?	**Very Satisfied**	**Satisfied**	**Dissatisfied**
a. Comprehensiveness of information	❑	❑	❑
b. Clarity of writing (readability, interpretability)	❑	❑	❑
c. Clarity of presentation (e.g., tables, charts)	❑	❑	❑
d. Timeliness of information	❑	❑	❑
e. Accuracy of information	❑	❑	❑
f. Clarity of technical notes	❑	❑	❑
g. Usefulness of resources and bibliography	❑	❑	❑
h. Organization	❑	❑	❑
i. Length	❑	❑	❑
j. Format	❑	❑	❑

PAPERWORK BURDEN STATEMENT
Office of Educational Research and Improvement (OERI)
Publication Customer Survey

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 1800-0011. The time required to complete this information collection is estimated to average 10 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s), suggestions for improving this form, or concerns regarding the status of your individual submission of this form, write directly to: P. Quinn, Room 204, Media and Information Services, OERI, U.S. Department of Education, 555 New Jersey Avenue NW, Washington, DC 20208-5570.

OERI Publication Customer Survey
Media and Information Services
U.S. Department of Education
Washington, DC 20202

Official Business
Penalty for Private Use, $300

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 012935 WASHINGTON DC

POSTAGE WILL BE PAID BY U.S. DEPARTMENT OF EDUCATION

U.S. Department of Education
Mail Code: 5570
400 Maryland Avenue, S.W.
Washington, D.C. 20277—2935

Fold on line—TAPE CLOSED—DO NOT STAPLE

10. Do you have any suggestions regarding the content or format of future editions of this publication or other comments?

MIS 1999-6532

United States
Department of Education
ED Pubs
8242-B Sandy Court
Jessup, MD 20794-1398

Official Business
Penalty for Private Use $300

Postage and Fees Paid
U. S. Department of Education
Permit No. G-17

Standard

BEST COPY AVAILABLE